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Tamil Cultural Connections across the World

(up to 1600 CE): Archaeological Evidence from Outside Tamil Nadu



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Tamil University
Thanjavur

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15.06.2010

Foreword

Tamil is one of the few surviving classical languages of the world and Tamil culture has made an indelible mark on the cultural heritage of the world. The research conducted in the area of Tamil studies so far has primarily been confined to the study of the language and literature. To appreciate the importance of the Tamil culture, a lot of inter-disciplinary research is required by digging out the archaeological remains that are buried deep in the womb of the earth, and by excavating the hidden meanings of the texts and material culture. To unravel the mysteries of Tamil culture, research needs to be undertaken not only in the Tamil speaking region, but also in the areas that have had links with the Tamil culture and Tamil region. The Tamil University, Thanjavur is working hard to achieve this goal. On the occasion of the World Classical Tamil conference, the Tamil University is glad to bring out several publications. This book is one of the publications in this series.

In this book, Dr. V. Selvakumar has brought out the importance of the archaeological evidence for understanding the Tamil cultural presence and impact noticed outside Tamil

Nadu. This book synthesizes the information available on the Tamil culture, outside Tamil Nadu, in a coherent manner.

To spread the importance of Tamil culture, it is essential that we publish books in English also. In that way, this book would help people who cannot read Tamil, to understand the evidence related to the Tamil culture.

I congratulate the author as well as the staff of the Tamil University for bringing out this book within a short span of time.

(Dr. M. Rajendran)

Preface

Tamil culture has flourished in the southern end of the peninsular India and it has had contacts with various cultures on the Indian Ocean rim region. Tamil culture has exchanged ideas, people and goods with various regions in the Indian Ocean rim and beyond, as revealed by the archaeological remains and textual evidence. Tamils have travelled across the Indian Ocean for various purposes, and similarly non-Tamils have also visited and settled in the Tamil region. Currently there is not enough literature that surveys, analyses and synthesizes all the evidence on the impact of Tamil culture and diaspora across the world in the pre-Modern period, although there are several micro studies on various cultural periods. In this book, I intend to survey the Tamil cultural connections based on the evidence from the archaeological excavations as well as the surface context, found outside Tamil Nadu. In addition to synthesizing the views and interpretations of various scholars on this subject matter, I also present my own understanding, analysis and interpretations here.

The information and analysis presented here may not be comprehensive and this work is a preliminary attempt in the direction of tracing the connections that existed between Tamil region and various other regions of the world. The evidence and interpretations presented in this book are not final and we need to do more research to understand the Tamil culture, its chronology and impact across the world. I hope that this book would be useful for the people, who are interested in Tamil culture and civilization and its past, as well as the researchers and students.

I would like to thank the Honourable Vice-Chancellor of Tamil University, Dr. M. Rajendran for

entrusting the task of writing this book and his constant encouragement. I am glad to thank Dr. S.P. Saravanan, Registrar, The Tamil University for the administrative support. I would like to thank Dr. N Athiyaman, Dean, Faculty of Manuscriptology, and Tamil University for generously allowing me to use his Notebook computer for typing this work.

I have to thank the Publications Department, Tamil University, especially its Director Dr.Kannapurakkannan, for brining out this book neatly, and for his constant support and patience.

I am glad to acknowledge the support offered by my colleagues Dr. P. Jayakumar, Head, Department of Epigraphy and Archaeology; Dr. Thulasendran and Dr. M. Bhavani, Asst. Professors, Department of Epigraphy and Archaeology, the Tamil University.

Finally, I would like thank Darsana, for checking the draft of this work and Ila and Ovi for being there.

Thanjavur
14-6-2010

V.Selvakumar

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Abbreviations

ASI	Archaeological Survey of India
EI	*Epigraphia Indica*
BCE	Before Common Era
BP	Before Present
CE	Common Era

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INTRODUCTION

Tamils are one of the many linguistic, cultural groups that occupy the rim of the Indian Ocean. Tamil, which belongs to the Dravidian linguistic family, is one of the classical languages of India, and the Tamils have a distinct linguistic identity within India, although they, linguistically and culturally, share several similarities with the other groups of people in the southern part of India. Tamil has an ancient literary tradition dating back to the Early Historic period (the Sangam Age), and the Tamil region has a rich variety of archaeological vestiges. To understand Tamil culture and its origin holistically, it is necessary to study the archaeological remains found not only within Tamil Nadu, but also outside the Tamil speaking region. With this idea behind, this book presents and analyses the archaeological evidence related to Tamil culture reported from the area outside Tamil Nadu. The archaeological evidence from both excavations and surface surveys is dealt with here.

Tamil Region: Definition

Tamil is the language of the people who live in the southeastern corner of India in the state of Tamil Nadu. But in the ancient period, Tamil was also spoken in ancient Kerala, which was known as the Chera country, i.e. territory ruled by the Chera dynasty. During that period, the Tamil region or Tamil country (Tamizhakam) broadly referred to the modern states of Kerala and Tamil Nadu situated in the extreme southern part of India.

Kerala lies on the south western coast of India, and now Malayalam is spoken in this region. Malayalam is believed to have become an independent language only from the medieval period, perhaps around 10th century CE; however some researchers debate this chronology

(Govindankutty 1972). Now Tamil is spoken mainly in the state of Tamil Nadu, and in the regions of northern and eastern Sri Lanka.

The ancient Tamil region was bounded by the Arabian Sea (*kuda kadal* or western sea in ancient Tamil) in the west, the Bay of Bengal (or *kuNa kadal* or eastern Sea) and the Indian Ocean (Tenkumari) in the south and the Venkatam hills (Thirupathi hill) in the north.

Tamil region is strategically located in the southern tip of India at the centre of the Indian Ocean (Fig.1), and this has enabled this region to have easy maritime access, than the land-locked regions.

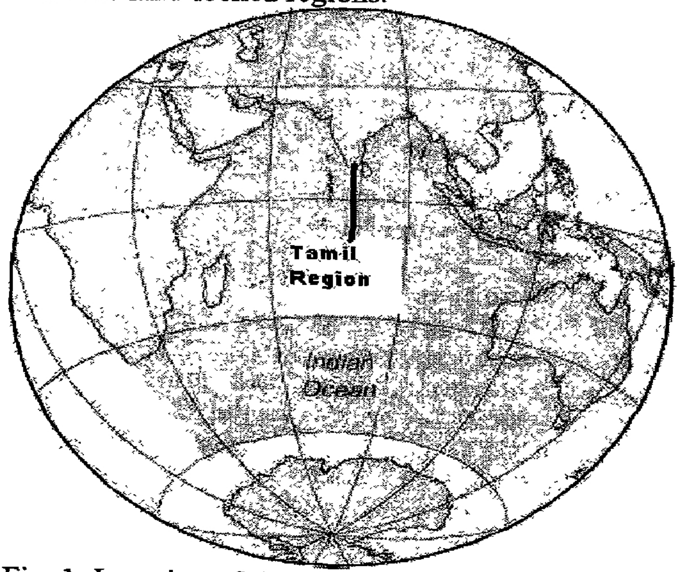


Fig. 1. Location of the Tamil Region in the Indian Ocean Region: Courtesy: Wikimedia Commons, 2010

The territorial scope of this work covers the area of outside the modern day state of Tamil Nadu. The cultural evidence found within the boundary of Tamil Nadu is not

presented in this book, since the primary focus of the book is on the evidence from outside the Tamil region.

Temporal Scope

This work primarily deals with the archaeological evidence from the prehistoric to the end of the medieval period, i.e. up to 1600 CE. During the modern period, i.e. in the post-1600s, large scale migration and forceful transportation of Tamil people took place due to the colonial rule and several other factors. Since the developments during this period were in a much larger scale with intense activities, it would require a separate volume. Hence, the evidence related to the interactions of Tamil country in the modern period is not included in this work.

Tamil Identity

What is Tamil culture? Who is a Tamil? By Tamil, I refer to all the people who use Tamil and reside in the region of Tamil country. Ethnicity is a complex concept and it is not easy to identify the linguistic affinities and ethnic affiliations of the prehistoric and early historic human groups, even with the help of archaeological and historical records. The conclusions that we arrive at (or which impress upon our mind) on ethnic affiliation may look real sometimes, but there is a lot of subjectivity involved in it. It is certain that Tamil language was spoken by a significant number of people in the Tamil country at least from ca. 500 BCE. The history of Tamil and Tamil speaking groups before this period has not been clearly understood, since no written document and other concrete forms of easily interpretable evidence are available for this period.

Dravidian Identity

Dravidian is a linguistic family comprising the major languages of Kannada, Malayalam, Tamil, Telugu, and Tulu, mainly spoken by the people who occupy the southern part of India. There are a few Dravidian languages spoken outside the southern part of India too. Tamils have separate linguistic identity now, and the history of this identity can be traced back at least to ca. 500 BCE. Before this period, it would be appropriate to speak of a proto-Dravidian language, which was perhaps the source of all the Dravidian languages (Krishnamurti 2003). Therefore, we are forced to confine our discussion primarily to the Dravidian identity in the prehistoric period.

Models of Migrations

The arguments presented by the archaeologists and historians for the emergence of cultures could be framed into three models (Fig. 2): a) Wave Model, which suggests that migration is responsible for the appearance of the new cultural developments; b) the second model can be called Spring Model, which implies that after the initial migration of *Homo sapiens,* indigenous processes led to the cultural developments; c) the third model of 'Wave-Spring' favours the external (migration) and internal (*in situ* developments) factors leading to the development of cultures.

Each one of these models can be applied to different cultural contexts. One of the main issues that concerns archaeology is the identification of *in situ* cultural growth and migration of people based on the excavation of multi-layered archaeological sites. It appears that often the propositions on migrations and *in situ* developments are more or less impressionistic. In the case of multiple layers of occupations of a site by various groups, it is not easy to distinguish the evidence

archaeologically. Therefore, archaeologists need to be very careful in ascribing archaeological sites to a particular ethnic group.

Another factor that often misleads archaeologists is the contemporary distribution of population and linguistic groups. This is in fact connected with the present day cultures, but it cannot be directly taken to indicate the past patterns of population distribution. I realized this when I undertook fieldwork in the Kaviri delta, where some of the abandoned Brahmin agrahaaras were being occupied by people of different belief systems in the modern times. Therefore, one cannot argue about continuous occupation of these sites by same groups of people.

Reacting to diffusionist theories, processual archaeology (Johnson 1999) of the 1960s minimized, underplayed the significance of migrations and gave more importance to 'system', adaptation and 'cultural processes.' However, in some cases developments were marked by simple movement of people. Archaeologists need to be cautious, while using models similar to 'Wave Model' and 'Spring Model' for cultural explanations. Sometimes extreme, theoretical positions are bound to influence researcher's conclusions unconsciously.

Nature of the Book

In this work, I present the connections, real as well as hypothetical, that the Tamils have had outside their current region of inhabitation. Here two kinds of evidence are discussed; one category of evidence is directly related to and is clearly identifiable as belonging to or connected with the Tamil culture; and the second is hypothetical. The Harappan culture comes under the second category. An account of the Harappan (Indus Valley Civilization) culture is included here for two reasons, firstly, it is very well embedded in the Tamil or Dravidian consciousness; secondly, there are scholars who argue that the Harappan

culture is related to Dravidian/Tamil culture. However, it is difficult to associate the Harappan culture with any specific linguistic/cultural group at this stage, since the symbols found on the Indus seals have not been convincingly deciphered.

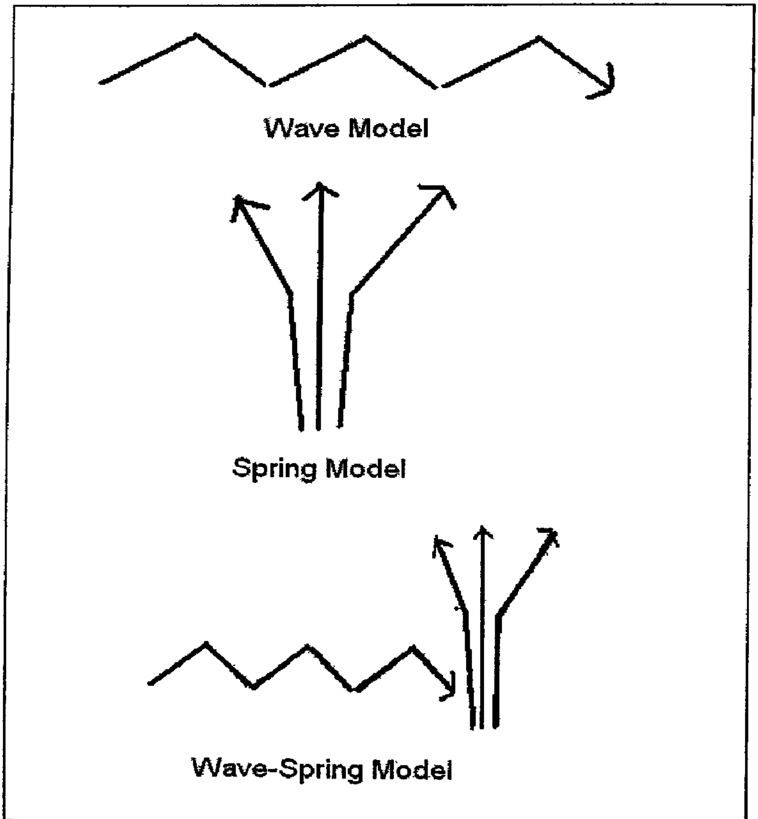


Fig. 2. Models of Human Migrations: Wave Model attributes all the development to movement of people; Spring Model argues for vertical *in situ* growth of

cultures; Wave-Spring Model, stresses on hybridization, and explains migration and in situ developments leading to the development of cultures.

This work is a preliminary attempt to survey and understand the various dimensions of Tamil Culture. It primarily surveys the archaeological evidence. The linguistic and literary evidence, which is also equally important, have not been surveyed here for want of time.

The focus of this book is not merely on the presentation of the excavated archaeological remains, but also on analyzing the importance of the same. Since the results of the excavations are available in the published reports of excavations, the excavated sites are very briefly discussed here. Only the important sites related to the theme of the book are discussed. References are given only for some contexts, due to lack of space.

The evidence related to the contacts and exchanges of the Tamil culture is presented chronologically here. The Prehistoric period concerns the period before the beginnings of the Harappan Culture, and the period related to the Harappan culture is treated separately. The Neolithic period covers the period from 8,000 BP to 3,000 BP. The Neolithic sites that served as the genesis of the Harappan culture are discussed along with the Harappan culture. The non-Harappan (Neolithic and Chalcolithic) cultures that were contemporary to the Harappan culture and the post-Harappan cultures, are discussed separately. The Early Historic period covers the period from ca. 300 BCE to ca. 500 CE. The Early Medieval period pertains to the period from ca. 501 CE to ca. 1200 CE, and the Late Medieval, encompasses the period from ca. 1201 CE to ca. 1600 CE.

Plan of the Book by Chapter

Apart from Introduction and Conclusions, this book has five chapters.

Chapter 1, *DNA Studies and Prehistoric Human Migrations in South Asia*, presents an overview of the prehistoric archaeological evidence of South Asia. It also briefly gives the results of recent DNA studies and presents their importance to the origin of the Tamils.

Chapter 2, *The Indus Valley Civilization*, gives an outline of the Harappan or Indus Valley Civilization and its characteristics. It also discusses the probable connections that the Harappan culture had with Tamil/Dravidian languages.

Chapter 3, *Cultures Contemporary to and Post-Dating the Harappans (ca. 5000 BCE to 300 BCE)*, presents the evidence related to the archaeology of the Late Prehistoric (Proto-historic) cultures that were contemporary to and post-dating the Harappan cultures. The cultures, otherwise known as the Neolithic, the Chalcolithic and the Iron Age, and the possible migrations to Tamil country in this period are discussed in this chapter.

Chapter 4, *The Early Historic Period*, presents the evidence related to the Tamil culture and Tamil Diaspora across the globe as reflected by the archaeological excavations and finds, and discusses their importance.

Chapter 5, *The Early Medieval Period*, gives an account of the material evidence and the cultural connections related to Tamil country noticed in other parts of the world from ca. 501 CE to ca. 1200 CE.

Chapter 6, *The Late Medieval Period*, narrates the evidence related to Tamil culture reported from different parts of the world, mainly in Southeast Asia, from ca. 1201 CE to ca.1600 CE.

The last section, *Conclusions*, presents the important highlights of this work.

In Appendix 1, *Tamil disapora before 1600 CE,* names of select Individuals of the Tamil Diaspora before 1600 CE are presented.

CHAPTER 1 DNA STUDIES AND PREHISTORIC HUMAN MIGRATIONS IN SOUTH ASIA

How did humans originate? This is one of the many fundamental questions that have been bothering the modern humans, probably right from the time when they began to think. Humans speculated and offered a number of explanations to such questions, which form part of philosophy, religion and metaphysics. Every one is curious to know about her/his ancestors and their source of origin. May be this quest is unique to the humans. It is this curiosity and rationalist thinking that have given birth to various disciplines such as archaeology, history and anthropology. Where did humans originate? When did they migrate to various parts of the world? When did they begin to use a language? Such questions, especially those related to 'origin and authorship' were extensively debated by the researchers in the fields of history and archaeology, mainly in the first half of the twentieth century.

Despite the shifts in research paradigms from the mid-twentieth century (Renfrew and Bahn 1991; Johnson 1999), these questions continue to dominate the thoughts of researchers and the lay public. Similarly, many people in Tamil Nadu are curious to know about the origin of the Tamils, and a number of theories have been proposed by scholars and interested individuals to explain the origin of the Tamils in the 19th and 20th centuries. Tamil culture, language, and past have been used as tools for self-determination among certain sections of the Tamils from the 19th century onwards.

This chapter focuses on the archaeological evidence related to the prehistory of South Asia, and also surveys the results of the recent DNA studies on ancient human migrations and their implications on the origin of the Dravidians/Tamils.

1.1. Theories on Human Origins

Before delving into the question of the origin of the Tamils, it is necessary to understand the issues concerning the origin of humans in general. The story of human origins dates back to about 3 million years ago, and the maximum quantum of archaeological and anthropological evidence for human origin comes from Africa (Jurmain *et al.*1991; Johanson 2001). There exist two theories among the scholars to explain the origin of the modern humans (*Homo sapiens*), namely, 1) 'out-of-Africa theory' and 2) 'multi-regional theory' (Johanson 2001). According to the first theory, modern humans originated in Africa and then dispersed into various other parts of the world. The second theory suggests that the pre-modern human species, i.e. *Homo erectus,* migrated from Africa to settle in other parts of the world, where it independently evolved into modern humans (*Homo sapiens*).

Between these two theories, the out-of-Africa theory is strongly supported by scholars today because of the available archaeological, palaeontological and DNA evidence (Johanson 2001). Therefore, it is widely believed that modern humans originated in Africa, since the other parts of the world have not produced the variety of evidence coming from Africa. However, it is not necessary that the 'multi-regional theory' has to be completely dismissed, in view of the philosophical position that a theory accepted today, might be falsified tomorrow with the arrival of new findings. But, as of now we are forced to go by the views accepted by majority of the researchers, based on the currently available evidence.

Among certain researchers and the public in Tamil Nadu, there is a view that humans and early Tamils originated in the Lemuria 'continent' that once existed and

then submerged into the Indian Ocean (Jayakaran 2001).

The theory of Lemuria landmass and its intimate association with the origin of the Tamils have been critically analysed by a few researchers (Ramaswamy 2004; Selby and Peterson 2008; Weiss 2009). This theory was floated in the 19th century and it has been extensively used by Tamil scholars from the late 19th century onwards. The traditions that the Tamil Sangams (association of Tamil poets of the Early Historic period) originated several thousands of years ago and that the first Sangam was located at Tenmadurai, which was submerged due to sea incursion, reported in the medieval texts (Srinivasa Iyengar 1930; Kanakasabhai Pillai 1966), are also linked to the Lemuria theory. There is not enough evidence to accept this theory as of today (Jayakaran 2001).

Geological investigations suggest that South India and Sri Lanka were linked through land, several times between 15,000 and 6,000 BP due to falling sea levels (Deraniyagala 1992; Jayakaran 2001). The theory of Lemuria is no longer accepted (Jayakaran 2001), and the information about the submergence of landmass to the south of Kanniyakumari, noticed to in Tamil literature, perhaps refer to the catastrophic events that took place in the later period due to factors such as earthquakes, tsunami and sea level fluctuations as mentioned above.

Before surveying the prehistoric evidence in India, let us outline the nature of prehistory briefly for the benefit of those who are not much familiar with prehistory or archaeology.

1.2.Nature of Prehistory

Evidence of writing is used as a criterion to distinguish history from prehistory. Since prehistoric people did not know/invent/use writing, there is no written document available for the prehistoric period. Hence, the material evidence such as stone tools, working-floors, rock

paintings, and bones are studied exhaustively to carefully reconstruct the way of life of the people in the prehistoric period. Because of the lack of written evidence, we are not in a position to know the identities (individual names or group names) and languages of the prehistoric people, what they thought about a particular object or phenomenon and the other intricate aspects of life. Therefore, our understanding of the human prehistory is bound to be partial.

Most of the human history falls under prehistoric period. Human history, if we include the early stages of human evolution, is about 3 million years old. Out of which, we have evidence for writing only for the past 5000-6000 years; that too only to a limited areas of the world. Therefore, history constitutes less than 0.1 % of total human history, whereas prehistory forms more than 99.9 % of human history. A comparison between history and prehistory is presented in Table 1.

Determination of chronology is relatively easier for the historical period, whereas it is highly difficult for the prehistoric period. The inscriptions, material culture and literature help us to date the happenings of the historical period more or less accurately. In some cases, we can point out when a particular event happened, whether in a specific year or a specific day, e.g. the day when the Chola King Rajaraja I, who ruled major parts of South India and Sri Lanka in the medieval period, ascended the throne (Nilakanta Sastri 1955). However, for the prehistoric period, this is just not possible.

Cultures of the prehistoric period can be dated only approximately, and tentatively. Various scientific methods such as Carbon 14 (C-14), Thermoluminescence (TL) and Potassium-Argon (K-Ar) are used to date the materials from the prehistoric period. However, these chronometric methods give only approximate dates.

Table 1. History and Prehistory – A comparison

	Historical Period	Prehistoric Period
1	Covers less than 1 % of human history.	Covers 99 % of human history.
2	Has a lot of quality evidence at least for some contexts.	Has very comparatively less amount of quality evidence.
3	Writing system was known.	Writing system was not known.
4	Has both textual and archaeological sources.	Has only archaeological sources.
5	We are able to know about individuals, their names, thoughts, activities and various minute aspects of life in detail, to some extent for certain contexts.	Not possible. Only learn about the society as a whole. Mostly about the materials used, animals hunted etc. Possible to investigate the thought and mind of prehistoric people, through material remains. The accuracy of such cognitive studies is not certain.
6	Chronology can be relatively accurate in many instances.	Chronology is always approximate.
7	Periods are generally divided on the basis of ruling dynasties, e.g. the Mauryan Period, the Gupta Period, the Chola period or major social transformations.	Periods are divided on the basis of cultural materials. E.g. Neolithic Culture. Copper hoard Culture. Ceramic Cultures: Painted Grey Ware Culture.
8	Is studied by the disciplines of archaeology as well as history.	Is studied mainly by archaeology.

Divisions of Prehistory

The earth is about 4.6 billion years old (Dalrymple 2004), and the beginning of the story of humans stretches back to more than 15 million years ago in the Miocene period, when great apes were dominant in the Old World (Andrews 1981). The earliest hominids (members of the family to which we belong), who could walk upright appeared on the earth around 4 million years ago (Cordain *et al.* 1997). The earliest evidence of stone tools is around 2.5 million years old (Rogers and Semaw 2009), and such tools and fossils of hominids (human ancestors) are found mainly in Africa. It is believed that humans originated in Africa and then they moved to other parts of the world. However in India, the earliest evidence for humans generally dates back to within the past one million years, though there are a few dates falling between the first and second millions of years, for the artifacts from the Riwat valley and Pabbi Hills of Pakistan (Rendell and Dennell 1985; Rendell *et al.* 1987; Dennell *et al.* 1988).

During the early stages of prehistoric period, humans were leading hunting-gathering way of life, without the knowledge of writing, and in the later stages they became agro-pastoral. 'Hunting-gathering' refers to the activities of hunting animals and gathering plant produce and fishing. 'Agro-pastoral' means the practice of plant and animal domestication. In the latter part of the prehistoric period, which is some times referred to 'proto-historic,' humans developed the knowledge of smelting metals and began to make metal implements.

Indian prehistory is divided into the Palaeolithic, the Mesolithic, the Neolithic and the Chalcolithic and the Iron Age/Megalithic periods. Within prehistory, Palaeolithic is the earliest cultural period and the Iron Age/Megalithic is the latest cultural period. It is not necessary that evidence for all these periods occurs all

over India. In some areas of India, a few of these cultural periods did not appear. In certain areas of India, there is no evidence for the Palaeolithic. The Neolithic cultural period is not very clearly represented in Southern Tamil Nadu and Kerala. There is also an overlap of cultural periods, which means that the evidence has come for two distinct cultural periods existing in the same point of time in different areas. This suggests that cultural developments have never been uniform across space and time.

The divisions of cultural periods are determined on the basis of the differences in chronology, types of tools used, and the way of life adopted. During the Palaeolithic and Mesolithic periods, humans mainly subsisted by hunting animals and gathering plant produce such as fruits, roots, nuts and leaves, and fishing. In short, humans were primarily food-gatherers. The evidence for the prehistoric period comes mainly in the form of lithic tools, which do not decay easily. Though people might have used wooden tools and objects during the prehistoric period, we do not have any of their traces in several contexts, because the organic materials decayed in the course of time; but in some waterlogged wet and snow-covered contexts of the world, such evidence is very well preserved. In the end of the Mesolithic period and the beginning of Neolithic period, humans began to rear animals, cultivate plants, and make pottery. Thus humans became food-producers. In the Chalcolithic and Iron Age, they began to smelt metals and produce implements, and increased complexity occurred in social formations.

The prehistoric period in India is divided into various sub-periods as shown in Table 2.

Table 2. Cultural Periods of Prehistoric and Historical Periods of India with reference to Tamil Region

	Cultural Period	**Approximate Time Range Years, Circa BP (Before Present)**
Prehistoric Period	Epi-Palaeolithic	20,000,000
	Lower Palaeolithic	700,000 to 50,000
	Middle Palaeolithic	150,000 to 35,000
	Upper Palaeolithic	30,000 to10,000
	Mesolithic	10,000 to 3,000
	Neolithic	8,000 to 2,000
	Chalcolithic	5,000 to 3,000
	Iron Age	3,000 to 2,300
	Early Historical	2,300 to 1,800
Historical Period	Early Medieval	1,800 to 800
	Late Medieval	800 to 400
	Modern	400 to present

Note: Chronology is tentative and is not uniform all over India

1.3. Prehistoric Scenario in South Asia: Archaeological Evidence

Against the background of the theories on the origins of humans and introduction to prehistory, let us look into the prehistoric evidence across South Asia. Although the primary interest here is to know the antiquity and linkages of the Tamil culture, the focus cannot confine

to the modern geographical limits of Tamil Nadu alone. This is the sole reason for the theme of this book encompassing the Tamil cultural connections and exchanges with the regions outside the modern day geographic limits of Tamil Nadu. When we deal with the prehistoric period, the modern identities, and political and sometimes even the geographical boundaries do not have any meaning or significance, unless clear evidence is available for correlation, and hence, the evidence for prehistoric period found across India is briefly surveyed.

Ever since the first discovery of the Palaeolithic tool at Pallavaram near Chennai by Robert Bruce Foote in 1863, numerous archaeological sites have been explored and several sites have been unearthed and analysed across South Asia. Despite these finds, our understanding of Indian prehistory remains poor and far from clear, due to a number of factors such as lack of scientific dates and systematic studies, and poor preservation of human skeletal materials.

The earliest examples of archaeological evidence for human ancestors in South Asia are reported to have been found in the Riwat Valley and the Pabbi hills of Pakistan. The stone artefacts reported at these sites are considered to be ca. 1.9 to 2.35 million years old, based on palaeomagenetic dating (Rendell and Dennell 1985; Rendell *et al.*1987; Dennell *et al.*1988). Though a few sites in Pakistan have early evidence for human occupation ascribable between 1,000,000 and 2,000,000 years BP, in general, archaeological evidence for human ancestors during this period is not significant across South Asia (Misra 2001). Most of the archaeological evidence for prehistoric humans in South Asia falls within the last one million years. Furthermore, the quantum of evidence increases as one comes below the time limit of 0.5 million years BP. This scenario is mainly because of the limited

number of scientific dates available for the prehistoric South Asia.

Epi-Palaeolithic

Epi-Palaeolithic refers to the artefacts that were used in the early stages of human evolution, i.e. before the Palaeolithic period. The artefacts found in the Pabbi hills and the Riwat Valley in Pakistan can be ascribed to the Epi-Palaeolithic period in South Asia (Chauhan 2006). Other parts of South Asia might also have similar evidence, but such evidence has not come to light so far.

Palaeolithic

Palaeolithic is the earliest cultural period in human prehistory. It was also known as the Old Stone Age. The term 'palaeo' means 'old' and 'lith' means stone in Greek. In the global context, the Palaeolithic period is divided into three phases, namely, Lower Palaeolithic, Middle Palaeolithic and Upper Palaeolithic. Lower Palaeolithic is the earliest among the Palaeolithic cultural sub-phases, while the Upper Palaeolithic is the latest. At an archaeological site, evidence for human activities is found in geological/soil layers. Layers are normally composed of soil, stone fragments and other particles. At any site, the bottom-most layer is the earliest and the top-most layer is the latest, according to the fundamental geological principle of stratigraphy. Among the artefacts of the Palaeolithic period, the earliest artefacts (representing the Lower Palaeolithic) are found in the bottom-most layers of a Palaeolithic site with multiple cultural periods. In case of single cultural sites, the artefacts should be chronologically datable to an early period, to be grouped under 'Lower,' and in addition they should possess the characteristics of the specific palaeolithic industries. Comparatively later artefacts found in the upper-most layers of a palaeolithic site, with specific characteristics

are grouped under the 'Upper' Palaeolithic. Those assemblages, which fall between these two phases, and possess certain distinct characteristics from the above-mentioned two phases, are classified as Middle Palaeolithic.

Lower Palaeolithic

The earliest artefacts (hand axes) of the Palaeolithic period are found in several parts of India (Fig. 3). In the late 1930s, prehistoric research in India was given a boost with the investigations of the Yale-Cambridge expedition, led by H. de Terra and T. T. Patterson. Several archaeological sites have been excavated in India since then (Misra 2001). The Lower Palaeolithic traditions (industries) of India are divided into: 1) Madrassian or Acheulian or hand axe or bifacial industry 2) Sohanian culture, pebble-core industry. Pre-Acheulian or Sohanian industry is called Mode I and Acheulian is called Mode II (Chauhan 2006). Acheulian industry has two phases, the early phase has higher proportion of hand axes and the later phase, higher proportion of cleavers and flake tools. During this phase, most part of the world was under the cover of ice. Most of the sites of this period are found along the riverbanks and terraces. Some of them occur in natural rock shelters and open-air sites in the river valleys. The Lower Palaeolithic people mainly hunted animals and scavenged on the animals killed by carnivores such as leopard and tiger, and gathered fruits and roots.

The Sohan industry was first identified by de Terra and Patterson in 1939 on the banks of river Sohan in the Siwalik Hills in Pakistan and Northwestern India. The industry gets its label from the name of the river Sohan. They identified three-fold terrace sequence (de Terra and Paterson1939) and now these terraces have been reviewed by the British Archaeological Mission to Pakistan

(Dennell *et al.*1988). Mohapatra (1976, 1981, 1990) found evidence of both Sohan and Madrasian industries in the Siwalik Hills. Based on magnetic polarity data, he has dated the Sohan industry to 300,000 to 400,000 years BP and he argues that the Acheulian industry found here cannot be older than 200,000 years.

In this early phase, humans began to make crude stone tools by removing flakes from certain types of stones, especially quartzite. They used one block of stone to remove flakes from other stone, and created sharp cutting edges. These tools were larger in size. They also used the pebbles with smooth surfaces, for making stone tools. The one end of the pebbles was flaked to create sharp edges, while the smooth other end was used to hold the tool. They are called pebble tools.

Hand axe is one of the popular tool types of the Palaeolithic period. Hand axes are grouped under Acheulian industry, since this type of tool was first identified at St. Acheul in France. This tool was used for digging and cutting purposes. Choppers and cleavers were the other types of tools used during this period. Besides, simple flakes were also used. Some of these tools were probably tied with wooden poles and sticks and used as spears or other types of implements. Stones such as quartzite and limestone, which are relatively easy to work with, were used for making tools. Human fossil evidence for prehistoric period is not abundant in India. Only one major human fossil of the Middle Pleistocene has been found at Hathnora in the Narmada Valley of Central India in the early 1980s. It was earlier identified as representing an advanced *Homo erectus species*, and it was later reclassified as an archaic or early form of *Homo sapiens* (de Lumley and Sonakia, 1985; Kennedy and Chiment 1991). Recent study has suggested its similarities with *Homo heidelbergensis* (Cameron *et al.* 2004).

Subsequently clavicles and a rib fragment have been found at the same site (Sankhyan 1997, 2005; Chauhan 2006).

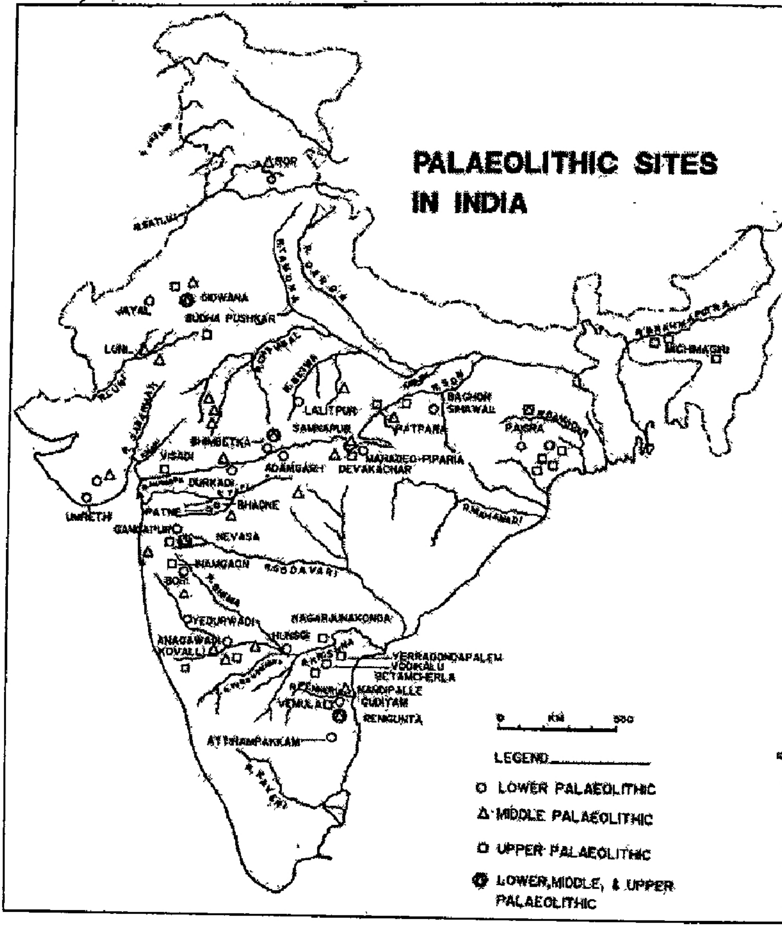


Fig. 3 Palaeolithic Sites in India (Courtesy: Misra 2001)

Now scholars generally agree that the Acheulian culture emerged in India due to the migration of the *Homo erectus species* from Africa (Petraglia 2003). In India, the Lower Palaeolithic phase is dated to about 700,000 years to 20,000 years BP. The Acheulian tradition also continues into the Middle Palaeolithic period (Misra 2001; Petraglia *et al.* 2009)

Lower Palaeolithic sites are found in several parts of India. The Sohan valley in Pakistan, Belan Valley in Uttar Pradesh, Hunsgi Valley in Karnataka, Narmada Valley and the rock shelters at Bhimbetka in Madhya Pradesh, Didwana in Rajasthan, Attirampakkam and Gudiyam near Chennai in Tamil Nadu are some of the important Lower Palaeolithic locations in India.

Attirampakkam is one of the earliest Palaeolithic sites to be discovered in India. Several scholars have studied this site from early 19th century onwards. Shanti Pappu and her team excavated this site recently (Pappu 1996; Pappu *et al.* 2003). These excavations have revealed very important evidence for early human occupations. Acheulian living floor and animal footprints and animal fossil bones have been excavated at this site. Palaeomagnetic measurements suggest an age within the Brunhes-Matuyama chronology of 730,000 years BP.

Isampur in Hunsgi Valley is a Palaeolithic site in Karnataka. Paddayya and his team excavated this site (Paddayya and Petraglia 1997). It is one of the sites to yield earliest evidence for human occupation in south India. ESR (Electron Spin Resonance) date of 1.2 million years has been obtained on two teeth fragments from this site (Paddayya *et al.* 2002).

Middle Palaeolithic

The Middle Palaeolithic phase succeeded the Lower Palaeolithic. During this phase, generally the size of the tools became smaller than the Lower Palaeolithic. The Middle Palaeolithic people used implements such as blades, scrapers, borers and points, although Acheulian hand axes were also continued to be used. Varieties of chert, quartzite and limestone were used for making these tools. The human species of this period is called *Homo neanderthalensis*. But no identifiable fossil evidence for this species has been found in India, although it occurs in West Asia. Like the Lower Palaeolithic people, the Middle Palaeolithic people were also involved in hunting and gathering. The Ice Age continued during this phase, which is dated between 150,000 BP to 10,000 BP in India (Misra 2001). Because of the Ice Age, it is argued that Middle Palaeolithic sites are limited in India. Most of the Lower Palaeolithic sites in India also have evidence for the Middle Palaeolithic culture. Sites of this phase are found in several parts of India including Sohan Valley in Pakistan, Nevasa in Maharashtra, Narmada valley in Madhya Pradesh, Hunsgi valley in Karnataka. They also occur in Uttar Pradesh and the Son valley in Central India and Chota Nagpur plateau in Eastern India (Fig. 3).

Upper Palaeolithic

The Upper Palaeolithic is the last phase of the Palaeolithic period. The stone artefacts became further refined during the Upper Palaeolithic. The artefacts generally decreased in size and materials such as chert and chalcedony were used for making tools. *Homo sapiens* species (Moderns humans) are said to have appeared in this phase, perhaps through migration from Africa.

Long blades and burins were the tool types used in this period. Bone tools of this phase also have been found

at some sites. Excavations at Baghor II in the Son valley of Uttar Pradesh have revealed a stone platform with a roughly triangular stone in the centre and it has been identified as a shrine (Kenoyer *et al.*1983). This is considered to be the earliest place of worship in India. Meralbhavi in Karnataka, Bhimbetka in Madhya Pradesh, Budha Pushkar and Didwana in Rajasthan, Patne in Maharshtra, Belan Valley in Uttar Pradesh; Kurnool caves in Andhra Pradesh are some of the noteworthy Upper Palaeolithic sites of India (Fig. 3). This phase marks the end of the Ice Age. This period is dated from ca. 30,000 BP. to 10,000 BP (Misra 2001).

The Upper Palaeolithic phase in Europe was rich in art and a lot of evidence for art such as cave paintings and carved mother goddess figurines are found there. However, in India no such rich variety of evidence for prehistoric art occurs. However, a bone harpoon from the Belan Valley in Uttar Pradesh is suggested to resemble a female figurine; but there are debates about the identification of this find (Ghosh 1991: 267). Evidence of ostrich shells with cross-hatched designs has been found at Patne (Sali 1989). This suggests more research could reveal about the presence of art objects in the Upper Palaeolithic sites of India.

Mesolithic

'Meso' means 'middle' in Greek language. Since this period falls between the Palaeolithic and the Neolithic, it is called Mesolithic. This period witnessed major changes in climate and the Ice Age, which was in vogue during the Palaeolithic period, came to an end. The lithic artefacts become very tiny in this period; hence, these artefacts are called 'microliths'. Since Mesolithic specifically referred to the period between the Palaeolithic and Neolithic transition, the term microlithic is also used

to label this industry in later contexts. The reduction in the size of the artefacts of this period is attributed to the changes in the climate patterns. The Mesolithic people also used large artefacts along with the microlithic implements. Some of the artefacts had geometric shapes resembling triangle, lunate (lunette) and trapeze. The other implements of the period are points, arrowheads, and blades. These artefacts were hafted in wooden or antler handles and used. Sites of this period are found all over India in varied geographical regions such as coastal areas, hills, deserts and river valleys. Mesolithic sites are found at Patne in Maharashtra, Teri sand dunes along the coast in Tamil Nadu, Mahadaha and Sarai Nahar Rai in Uttar Pradesh, Bagor in Rajasthan, Langhnaj in Gujarat, Sanganakallu in Karnataka, and Adamgarh in Madhya Pradesh.

Mesolithic is the first cultural period in India to have evidence for human burials. We do not know whether dead people were buried during the Palaeolithic period in India. However, burials of the Middle Palaeolithic period have been found in other parts of the world, but not in India. The burial evidence suggests that the Mesolithic people had some kind of religious beliefs.

The Mesolithic people lived in rock shelters, caves and also open-air sites and hunted wild animals and gathered forest produce. The sites in which they lived have stone tools and animals bones. Evidence for art is also present in this period. Some of the paintings on the rock shelters of Bhimbetka in Bhopal are dated to the Mesolithic period. This period is generally dated from 10,000 BP to 2,000 BP. (Misra 2001); but in some areas, it continued even up to the Historical period. This situation can be compared to the present scenario in Mumbai region. While high-rises are common in the city, there are

still 'tribal' groups living on hunting and gathering about 100 to 200 km away from Mumbai.

1.4. Anthropological Study of Contemporary Population

Physical features of contemporary populations are studied to understand their source of origin and interrelationships for comparison with other populations. Physical anthropological studies seem to suggest that Tamil Nadu was colonized by people arriving in various waves of migrations in different point of time. Malhotra *et al.* (1981) have identified proto-austroloid features among the communities such as the Paraiyans, the Chakkiliyars and the Mutturajas and they are proposed to have entered the Tamil region between 15,000 and 20,000 years ago. These researchers have identified Palaeo-Mediterranean and Mediterranean features among the Kallars and the Vanniyars, and these groups are suggested to have been migrated about 10,000 years ago, while Western brachycephalic features are noticed among the Mudaliars, Vellalars, Chettiars, Brahmins and Naidus, who perhaps entered at least 3,000 to 5,000 years ago (Malhotra *et al.*1981). It appears that this study has been undertaken with some preconceived notions, and it is not clear if such generalizations are valid, since the peopling process of India and the related parameters are much more complex than it is assumed by the authors. Such anthropological studies are used as basis of some of the genetic studies on human origins. Therefore, the results of these genetic studies are also debatable.

1.5. DNA Studies and Human Migrations

The branch of study that concerns with ancient human migrations and origin is known as genetic anthropology. The early ideas of contacts and migrations

of human have been proposed by a few researchers (Lehmann and Cutbush 1952) based on the study of sickle cell traits among the populations. In the recent years, there have been increased interest in the origin of humans and their migrations based on the study of DNA (Oppenheimer 2004, 2006). The conventional anthropological studies had relied upon the physical features of contemporary populations to propose various theories on human origins in the nineteenth and twentieth centuries. The concept of race was constructed by the early anthropologists and but this concept was abandoned by many of the researchers in the late twentieth century (Kennedy 1995; Štrkalj 2007), since it has caused a number of research problems, political debates and discrimination and torturing of human communities. The attempts to investigate the origin of various human groups based on physical anthropological attributes have not given convincing results, because of the poor preservation of physical anthropological remains in the archaeological record. In addition, the archaeological studies of tool typology have also not helped enough to understand human migrations and ancestry. Against this background, the genetic investigation is considered an ideal tool to study human migrations independently as well as to supplement the findings from archaeological record.

Several researchers across the world have involved in the study of human ancestry and migrations, and day by day more and more research articles and reports are published. This particular field of study has become a hot topic. The views expressed by one groups of researchers earlier are debated and reinterpreted later. A perusal of the results of such studies reveals that the phenomenon of human migration is very complex, and individual subjectivity along with preconceived notions has contributed to some of the interpretations. Although

researchers who have studied of contemporary human DNA come up with different interpretations, they are generally unanimous in claiming that the modern humans originated mainly in Africa and then migrated about 60,000-70,000 years ago to South Asia, China and Java, and later Europe (Fig. 4). The Genographic Project headed by Spencer Wells (2002) has studied the DNA of humans across the world and has suggested that "all modern humans share a common female ancestor who lived in Africa about 140000 years ago, and all men share a common male ancestor who lived in Africa about 60000 years ago" (HGP 2010).

DNA Basics

DNA or Deoxyribonucleic acid found in human body has the codes that represent the physical characteristics of an individual and it is passed on from one generation to the other (Bandelt *et al.* 2006). Despite the fact that they have the codes which determine how an individual differs from other person, it is reported that some parts of DNA remain unchanged and they carry the traces of human ancestors. Humans have two types of chromosomes, namely, X chromosome and Y chromosome. Y chromosome is passed from father to son. Mitochondrial DNA (mtDNA hereafter) is passed from mother to child. Y chromosome helps to study the ancestry of the males, while mtDNA helps both male and females to find out their ancestry. mtDNA is considered an important genetic tool for studying the maternal genetic history of humans "owing to its unique properties such as high copy number, near-absence of genetic recombination, maternal inheritance and high mutation rate (3 to 5 times greater than nuclear DNA)" (Maji *et al.* 2008: 85; Cann *et al.*1987; Cann 2001; Macaulay *et al.* 2005)

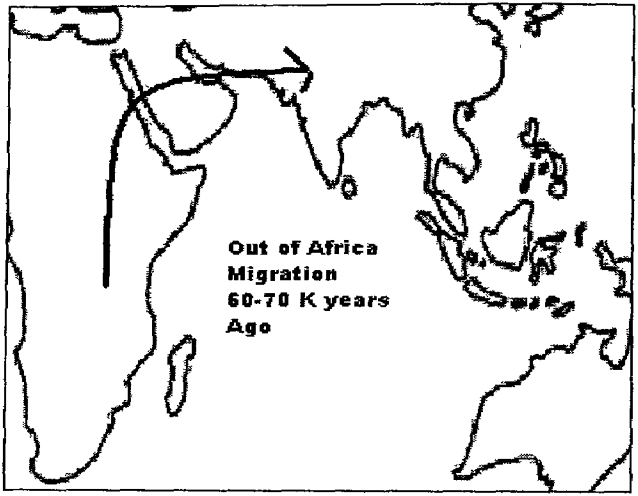


Fig. 4. Map Showing the *Homo sapien* Migrations from Africa to South Asia

The mutation of Y and X DNA serves as genetic markers. This genetic marker is possessed by all the males and females who lived in a particular region. When they migrate to other region, they carry these genetic markers. By studying the populations, the location and chronology of their ancestry can be analysed. For example, it has been argued "that about 70% of English men, 95% of Spanish men, and 95% of Irish men have a distinctive Y-chromosome mutation known as M173. The distribution of people with this mutation, in conjunction with other DNA analyses, indicates that the men's ancestors moved north out of Spain into England and Ireland at the end of the last ice age" (HGP 2010).

Scholars assume that the random mutation of human DNA occurs at a particular rate. For example, this process can be compared to the half-life of radiocarbon

dating or the accumulation rate of energy used as basis in TL dating. This idea is very important, since this forms the fundamental of the DNA dating of the populations. Different populations are compared to get an idea of the precise number and order or sequence of mutations. This helps to determine the number of mutations that have occurred in a particular population. The number of mutations is multiplied with the assumed rate of DNA mutation mentioned above. Thus the chronological gap between two populations is determined, the spatial distance is calculated based on their geographic distance. Based on this, theories of migrations are proposed. However, this methodology is not without problems as recent studies indicate that in some regions, DNA mutate faster than the proposed time rate (Gibbons 1998) and therefore this might lead to wrong estimation of the age of a population.

DNA Studies in South Asia

Several groups of researchers across India have undertaken studies on human migrations. Based on the results, the DNA studies can be broadly divided into two categories, a) one category which suggests genetic integrity in India (Vishwanathan 2000; Bamshad *et al.* 2001; Roychoudhury *et al.* 2001; Basu *et al.* 2003; Kivisild *et al.* 2003; Cordaux *et al.* 2004; Kashyap *et al.* 2006; Sahoo *et al.* 2006; Sengupta *et al.* 2006; Thanseem *et al.* 2006), while the other, b) the second category, which argues for a certain degree of genetic differentiation (Rosenberg *et al.* 2006). These DNA studies are not undertaken independently, they obviously take factors such as linguistic families, namely, the Austro-Asiatic, the Tibeto-Burman, the Indo-European and the Dravidian; geographic variations (Eastern India, South India, Central India North India and Northwestern India); and social variables including caste, religion and occupation. The

basis for the all ethnic theories for the origins of Indians is variations noticed in the physical appearance of the people who live in India and the languages they speak. It does not need any great laboratory analysis to establish the differences between the various population groups. One does not need any scientific study to notice the similarity between some groups of people living in north eastern India and those who live in Burma and beyond. Although researchers cite various examples, any lay public can identify the differences through people's appearance. As the Vedic texts talk about *anasyas* and *dasyus,* people had always viewed groups that look different (the 'other') from them (the 'self') negatively. The presence of various linguistic groups and people with different appearance itself suggests population diversity in India. Obviously people migrated to India in various points of time and they occupied different regions.

The hypothesis of out-of-Africa-migration proposes that the earliest migrants, possibly carried mtDNA macrohaplogroups M and N, entered southern Asia and later some splinter groups have drifted to Southeast Asia and reached Australia, leaving their genetic signatures all along their route of migration. It is suggested that the mtDNA macro haplogroups of.M and N arose from the L3 haplogroup, which is found only in Africa. The phylogentic node of R is found in Euroasia, while the haplogroup M is present in eastern Eurasia, but absent in Europe (Metspalu *et al.* 2004). The earliest migrants who came to South Asia had mtDNA macrohaplogroups M and N and some groups from there branched off to Southeast Asia and Australia, and genetic signatures for this migration is are present in their routes of migrations (Cann 2001; Macaulay *et al.*2005). Metspalu *et al.* (2004: 20) argue that "Three Indian-specific haplogroups, M2, U2i and R5, which encompass about

15% of the Indian mtDNA pool, exhibit equally deep coalescence ages of about 50,000 to 70,000 years. Thus, their spread can be associated with the initial peopling of South Asia".

All these studies suggest that modern humans (*Homo sapiens*) migrated to India around 70,000-60,000 years ago. It has been suggested that they moved to Sri Lanka in the next 20,000 years (Habib 2001, 2002; K.S. Singh 2002). Based on DNA studies, a team suggests that Austro-Asiatic groups of people could have been the original populations of India (Majumder 2001). Some researchers argue that the Dravidian speakers originated in India itself (Rajkumar *et al.* 2005; Thangaraj *et al.* 2006), which is disputed by Winters (2008, 1999a, 1999b), who proposes that the Dravidians migrated from Africa in the recent past, based on genetic and linguistic evidence.

Coming to Tamil Nadu, a number of studies have been conducted in the recent years. Based on the DNA analysis of Virumandi, who belongs to the Piramalai Kallar community and hails from Jothimanikkam village near Madurai, it has been identified that he is one of "the direct descendants of the first ever settlers in India, who had migrated from the African coast some 70,000 years ago." His DNA matched with the DNA M130, which is noticed among the populations along the Western Ghats sporadically. R. Pitchappan says that "though the migration to India took place some 70,000 years ago, the first settlement in the South happened about 10,000 years later." "More than half of the Australian aborigines carry this M130 gene. The marker is also present among some people in Philippines and the tribals of Malaysia" according to R.Pitchappan (Pitchappan 2002; Zeitler nd).

The phylogenetic analysis of the several samples from various caste groups suggests that closer affinities exist among the Dravidian speakers (Kanthimathi *et al.*

2008: 178). Brahmins of Tamil Nadu show closer genetic affinities with the Indo Aryan speakers from North India (Kanthimathi *et al.* 2008: 178). They add that "the caste populations of Tamil Nadu are characterized by high levels of heterozygosity and almost similar allele frequency profiles. This suggests that these populations might have a common ancestry or probably experienced very high gene flow during the period of their coexistence."

A recent genetic study shows "that the scheduled caste populations of Tamil Nadu are genetically heterogenous, but also showed affinity with contemporary populations of different socio-economic groups" (Vijaya *et al.* 2008: 163). The results of this genetic study contradict the conclusions of Malhotra *et al.* (1981) and suggest that exclusivity cannot be claimed for the so called "Scheduled Castes" and there is a mix-up among these communities. This category of "Scheduled Castes" was created in the modern times and it not clear how valid this category is for DNA studies. It is not clear how much reliable and certain are the claims of Malhotra *et al.* (1981), since these categories of castes were modern constructs and how much caste-specific generalization is valid. However, Thomas *et al.* (2004) argue in the context of Kerala that the Dravidian tribes Kurumas and Kattunayakkas have retained genomic integrity and have not mixed with new or later migrants.

1.6. Discussion

The DNA studies suggest that modern humans migrated to Tamil Nadu about 60,000-70,000 years ago. There is a view that most autochthonous groups originated shortly after human migration 60,000-70,000 years ago based on the diversity of M Haplogroups (Chaubey *et al.* 2006). Malhotra *et al.* (1981) has suggested that Pro-

Australoids migrated to Indian about 15-20,000 years ago. Based on linguistic evidence, Southworth argues that several other languages existed in South Asia before the arrival of Indo-Aryan Speakers and the Dravidians (Southworth 2009). He states that the proto-Dravidians speakers who came to India around 3rd millennium BCE included settled agriculturalists and herders and hunters. Some of the recent studies of Scheduled caste groups suggest that they show affinities with other contemporary population groups. Winters (2007) argues that the Dravidians groups who live in South India and those who occupied the Indus valley migrated from Africa.

There are some researchers who place the origin of the Dravidian speakers in Peninsular India itself (Fuller 2007) and perhaps they mean that the Dravidians emerged *in situ* from the early *Homo sapiens* who migrated to South India before the Holocene.

We need to find clear-cut evidence for the migrations of modern humans to this region, archaeologically. Tamil Nadu does have evidence for human occupation in the Late Pleistocene. Do the groups that occupied India in the Middle Palaeolithic period belong to these early migrants from Africa? Sri Lanka has evidence for human fossils datable to ca. 30,000 years ago in some of the caves such as Batadomba Lena (Deraniyagala 1992; Petraglia *et al.* 2009). Similar evidence must exist in India.

What was the language of the early groups of South India? Did they speak Dravidian or some other language? We are not in a position to suggest anything at the moment. Recent explorations undertaken in Tamil Nadu suggest evidence for Middle or Later Palaeolithic human activates near Thanjavur (Selvakumar 2007, 2008b,d, 2009 and Ariyalur (Rajan and Ramji 2009) and

suggest that southern Tamil Nadu also has evidence of Palaeolithic occupation comparable to that of Sri Lanka (Deraniyagala 1992). But the dating evidence is lacking for the sites of southern Tamil Nadu.

Taking into consideration, the archaeological as well as the genetic studies, we could suggest that the descendants of the people who lived in Tamil Nadu region during the Mesolithic times definitely contributed, at least in part to the make-up of contemporary Tamil population. Could they be represented by the groups such as the Irulas or the Paliyans? Did the Mesolithic groups speak Tamil? We are not sure. But, it is certain that the Tamil speaking people did not migrate to the Tamil region at one point of time, and several waves of migrations have contributed to the population patterns of the Tamil region.

DNA studies on human migrations need to be handled carefully. These studies have to be truly inter-disciplinary in nature, incorporating biotechnology specialists, historians, linguists, anthropologists and archaeologists, and only then the studies could be more meaningful.

CHAPTER 2 INDUS VALLEY CIVILIZATION

The Indus Valley or Harappan culture is one of the important cultural phases in the history of South Asia. It is considered an urban culture of ancient India, what is now known as India-Pakistan region. This civilization, which represents the first urbanization of India, mainly flourished in the valley of the river Sindhu or Indus in Pakistan, and in the adjacent regions in the northwestern part of India, and Pakistan. This civilization is called 'Indus Valley' because most of the cities and towns of this civilization are found on the banks of the river Indus (Sindhu). It is also known as 'Harappan Culture', after the site of Harappa, which was visited and discovered as early as the 1820s. Since this civilization is also found beyond the valley of the river Indus, here we shall use the term 'Harappan Culture or Civilization' more often. The remarkable aspect of this civilization is that the kind of town planning and organization seen in some of the 5000-year old cities of this civilization is still lacking in many parts of the present day world. This chapter is divided into two major sections; the first section surveys the main characteristics of the Harappan culture, while the second section presents the connections between the Indus Civilization and the Dravidians/Tamils.

2.1. Indus Valley Civilization

It is one of the oldest civilizations in the world, and contemporaneous to the civilizations of Mesopotamian and Egyptian. Before the discovery of this civilization, it was thought that the beginning of Indian history did not extend

beyond the Vedic period, ca. 1000 BCE. The discovery of this civilization definitely pushed back the beginning of Indian history by more than 2000 years.

The Spatio-temporal Impact of the civilization

The mature phase of the Indus Valley Civilization prevailed between 2600 and 1900 BCE (Kenoyer 1991, 1998). However, the story of Harappan culture did not confine to the above-mentioned 700 years alone; its roots go back to the early Holocene era, ca. 10,000 BCE and it continued till about 1500 BCE. Perhaps some of the ideas of the contemporary Indian culture date back to the Indus Valley civilization. The important cities of this civilization, Harappa and Mohenjo-Daro, are now in Pakistan, while a few smaller cities such as Lothal, Dholavira and Rakhigarhi are in India.

The Discovery

The importance of the Harappan Culture was realized only in the early twentieth century, although Charles Mason and Alexander Burnes visited the site in the early nineteenth century (Possehl 2002; Lahiri 2005). Later in the second half of the nineteenth century, Alexander Cunningham, then Director General of the newly established Archaeological Survey of India (ASI), dug the site, and also acquired a Harappan seal from a private collection. But he could not realize the significance of this civilization. A major part of Harappa was destroyed in the nineteenth century, as it was quarried for the ballast for laying the Multan-Lahore railway line. It was under the leadership of Sir John Marshall, Director General of Archaeological Survey of India, and with the support of pioneering Indian archaeologists, initiatives were taken to bring out the mysteries of this civilization. Under the direction of Marshall, Daya Ram Sahni excavated Harappa, located on the bank of the river Ravi and R.D.

Banerjee excavated Mohenjo-Daro, situated on the bank of the river Indus. The findings of excavations opened up great excitement in India and across the world. Marshall published the results of the excavations in three volumes (Marshall 1931). Later several archaeologists including Sir Mortimer Wheeler (1947) and M.S. Vats excavated the Harappan sites.

Till the 1950s, the focus of research on the Indus valley civilization was on the major sites of Harappa and Mohenjo-Daro in Pakistan. However, the surveys carried out in India, after the division of Pakistan have brought to light many Harappan sites in the states of Rajasthan, Gujarat, Haryana and Punjab. The surveys conducted over the years have revealed more than 1,000 sites belonging to the Harappan Culture (Possehl 2002). Many sites of this culture have been excavated. As a result, it has been realized that the Harappan culture covered more than one million square kilometer area, and a significant part of which is in modern India.

Distribution of the Harappan Culture

The Harappan was the only culture to cover a very large area in the third millennium BCE. The northern-most Harappan site lies at Manda in Jammu, and the southern-most Harappan site is Bhagatrav in Gujarat-Maharashtra border at a distance of about 1,100 km (Fig. 5). The eastern-most site is Alamgirpur in Uttar Pradesh and the western-most site is Sutkagendor in Afghanistan at a distance of 1,500 km. Settlements of the Harappan culture also existed on the banks of the now dried-up river of Ghaggar in Rajasthan, identified with Saraswati mentioned in the Vedas.

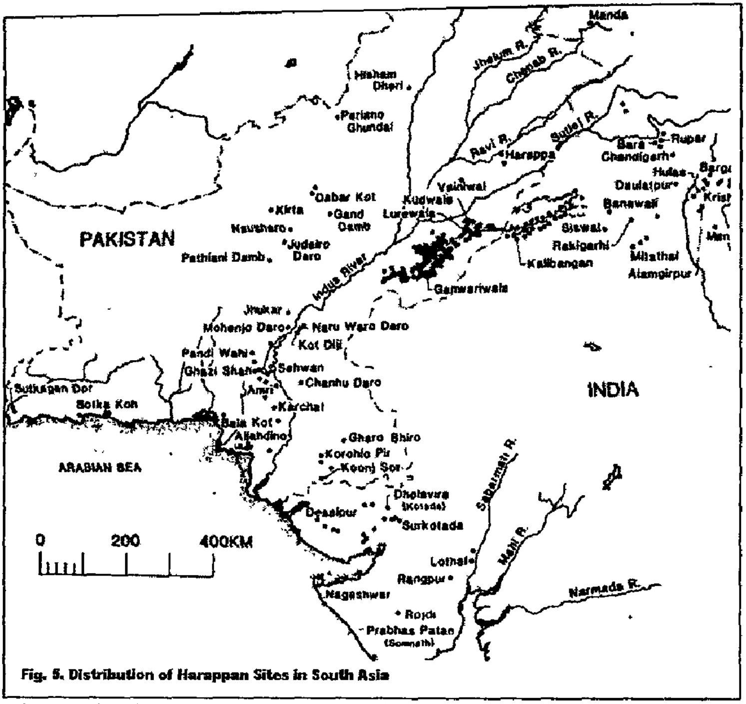


Fig. 5. Distribution of Harappan Sites in South Asia

Fig. 5Distributon of Harappan Sites in South Asia (Courtesy: Misra 2001).

Harappan Culture was Not Homogenous

An important point to be noted here it that the Harappan culture was not homogenous across the region of its distribution. Harappan culture was initially viewed as a monolithic, homogenous entity by early researchers, but over the years, scholars have realized that several distinct groups existed within the Harappan cultural zone. Many cultural and regional variations are seen in the material culture of the Harappans. Possehl has defined several domains within the

Harappan cultural zone, namely, Kulli domain, Sorath Domain, Anartha Chalcolithic, Sindhi Domain, North eastern borderlands, Eastern Domain and Cholisthan Domain (2002: 6-7). Although the various domains of the civilization had certain degree of unity and standardization, diversity did exist among them. Perhaps this civilization can be compared to contemporary India which is characterized by unity in diversity. Therefore, it is not necessary that the people who lived in the entire Harappan Cultural Zone spoke the same language and belonged to a single ethnic stock.

Chronological Divisions of Harappan Culture

The Harappan culture was not a sudden development of the third millennium BCE and it was the result of numerous cultural processes that covered more than 9000 years. The culture began to develop in the Pre-Harappan phase, was in its peak during the Mature Harappan phase and started to decline in the Late Harappan phase. Early researchers used simplified chronological divisions such as Pre-Harappan, Mature Harappan and Late Harappan. These chronological divisions have been completely revised by several researchers in the recent past (Kenoyer 1991; Possehl 2002). The Harappan culture/Indus Age is chronologically divided into at least six phases by Possehl (2002: 29). They are namely, 1) Beginning of Village Farming Communities and pastoral camps, 2) Development of Village Farming communities, 3) Early Harappan, 4) Early Harappan and Mature Harappan transition, 5) Mature Harappan, 6) Post-Urban Harappan. Kenoyer uses slightly a different terminology for these cultural stages (1991).

Genesis of the Harappan Culture

The Harappan culture did not emerge all of a sudden. The genesis of the civilization lies in the activities of the hunter-gatherers and the ecological conditions in the terminal Pleistocene and the beginning of the Holocene. These hunter-gatherers laid the foundations for the early Neolithic culture, mainly in the central and southern Baluchistan. Conventionally it was believed that the knowledge of farming and domestication spread to the Indus Valley, from the Greater Jordan valley (Possehl 2002: 24). This view is now debated and it is contended that agriculture and animal domestication might have emerged in this region itself independently. A vast quantity of evidence for early Neolithic period is found at Mehrgarh on the Kachi plains of the Indus valley in the present day Pakistan. Mehrgarh is located on the route between Indus Valley and Baluchistan. The beginning of agriculture and animal domestication at this site is dated to ca. 8500 BP. This date is almost comparable to the sites of Greater Jordan Valley (Possehl 2002). It has to be remembered that in archaeology, conclusions are drawn based only on the findings from the known and excavated sites which represent the limited samples of higher number of archaeological sites. Therefore, there could be other sites in the regions with evidence for agriculture and animal domestication comparable to that of the Jordanian sites. In Afghanistan, domestication of plants and animals began after 8000 BCE (Ratnagar 2006: 125). The Pre-Harappan people lived in mud brick houses and made pottery with paintings and also beads of various materials. They buried the dead in pits. The terracotta female figurines found at these sites probably had religious significance. They used stone tools made of materials such as chert. They also practiced

agriculture. At Kalibangan in Rajasthan, furrow marks indicating ploughing activities have been found.

The site of Mehrgarh was excavated for eleven seasons by Jarrige (Jarrige *et al.*1995). It has evidence for both aceramic and ceramic Neolithic periods. Houses which had four to six rooms built of mud bricks were used in the early stages. It is believed that this site could be the camping location of semi-sedentary pastoralists and chief-ship could have emerged at this site in the early period (Ratnagar 2006). These people used stone implements made of flint. Use of basket and grinding stones was also noticed. Calcite beads, shell bangles and clay figurines suggest their aesthetic interests. They cultivated naked six row barley as well as emmer wheat (Possehl 2002; Madella and Fuller 2006). Evidence of wild big games such as gazelle, swamp deer, *nilgai*, black buck and water buffaloes were found at this site. South Asian Zebu (cattle), and sheep and goat were domesticated according to Richard Meadow (1998). According to early reports, from 4000 BCE, copper objects appear at Mehrgarh. A recent report suggests the presence of copper as early as 6th millennium BCE (Biot Report #579). Mundigak in Afghanistan, Rana Ghundai, Kot Diji, Mehrgarh and Kili Ghul Mohammad in Pakistan and Kalibangan in India are some of the important sites which show development predating the early Harappan cultures. A few of these early sites also had fortifications around.

The early developments in the beginning of plant and animal domestication perhaps took place all across the Indus region and there are reasons to think that population diversity existed even before the Harappan culture began in the time of the Mesolithic hunter-gatherers. The developments in the

Stages I and II (Possehl 2002) laid the foundations for the civilization.

Early Harappan phase

Even before the urbanization, several developments and interactions took place in the Indus region in Stage 3.The prelude to the mature phase developed during this phase. Expansion and regionalizaton of culture took place. Trade and exchange networks became well established.

Mature Harappan Phase

The Harappan culture was in its peak during the Mature Harappan phase. The sites of Mohenjo-Daro, Harappa and several other towns as well as rural settlements flourished. The town planning attained better organization. The houses and buildings were beautifully arranged in a pattern comparable to that of the grid system. It is argued that the Harappan cities do not have the perfect grid pattern (Possehl 2002). Some of the towns had citadels or raised area and Lower towns. Perhaps, the royals or noble class lived in the citadel area, while the common people lived in the lower town. But this pattern cannot be generalized for all settlements in the Harappan domain. Most of the Harappan seals belong to this phase. Some of the houses and buildings were brick built. The use of baked brick was not a universal phenomenon. The public buildings such as the Great Bath of Mohenjo-Daro and the warehouses belong to this period. This phase is dated to 2600-1900 BCE.

Post-Urban (Late) Harappan Phase

In the Post-Urban Harappan phase, the Harappan culture began to decline, rather transform (the terminology

preferred by many researchers). The major cities began to lose their importance and the focus of the civilization shifted towards the east. They practiced cattle and sheep rearing, and lived in mud brick houses. Most of the Late Harappan sites are in Rajasthan, Gujarat, Haryana, Punjab and Western Uttar Pradesh. This phase is dated between 1900 and 1000 BCE. The Late Harappan people mainly lived in village settlements. Prabhas Patan and Rangpur in Gujarat, Manda in Jammu and Alamgirpur in Uttar Pradesh have evidence for the Late Harappan phase. Some sites in Punjab and Haryana have revealed Painted Grey Ware along with the Late Harappan pottery. The Late Harappan people used copper and stone implements.

The Major Cities of Harappan Culture

There are more than 1,052 known mature Harappan sites found in India and Pakistan (Possehl 2002: 65). Out of these, about 15 sites are large in size can be termed cities. In addition there are sites which had merely contacts with the Harappan cultures. A brief note on some of the major Harappan sites is presented below.

Harappa

Harappa is one of the largest among the few cities of the Indus Valley Civilization. It lies on the dried-up course of the river Ravi in Montgomery district of Western Punjab in Pakistan. It was the first Indus Valley site to be discovered, as it was visited by the Europeans explorers in the 1820s. Mohenjo-Daro is located about 600 km southwest of Harappa. This site has five mounds, and a part of the site was robbed for laying a railway line. Alexander Cunningham excavated the site in nineteenth century. Later, Rao Bahadur

Daya Ram Sahni excavated the site in the 1920s. In the 1980s, it was excavated by George F. Dales and J. Mark Kenoyer of Harappa Archaeological Project (HARP) (Kenoyer 1991). According to the recent excavations, the establishment of this city perhaps dates back to 3800 BCE during the Ravi phase and it ended around 1500 BCE with the Cemetery H Post-Urban Harappan phase (Kenoyer 1991; Possehl 2002: 66). The city had a citadel area and a lower town. The citadel was separated by a rampart wall. During the mature phase, the site covered about 200 hectares and it is estimated that the site could have had a population of about 20,000 at its zenith (Possehl 2002: 66). The imposing raised area called mound A and B was labelled citadel by Wheeler. Mound F has the structure called granary and its identification has not been validated by charred grains or any other forms of evidence (Possehl 2002). To the south of this building are grain threshing floors. Harappa has two cemeteries. Baked bricks have been used on a large scale at this site, but not as much as at Mohenjo-Daro. Some scholars identify this city with 'Hariyupiah' mentioned in the Rig Veda.

Mohenjo-Daro

Mohenjo-Daro is also as big as, and as important as Harappa. It lies in the Sindh province of Pakistan on the bank of the river Sindh. Mohenjo-Daro means "mound of the dead" in Sindhi language. It appears to be a town laid out at one point of time. It was mostly built of baked bricks, and covers about 100 hectares in size. This city is believed to have been established in the Early Harappan-Mature Harappan transition period (Possehl 2002: 65). There is a high mound called as citadel by Wheeler (1947, 1968) and stupa mound by

Marshall. The high mound covers about 8 hectares and the lower town, about 70 hectares.

This site was discovered in early twentieth century and was first excavated by R.D. Banerji. It has been excavated for more than 15 seasons. The remarkable structure here is what is known as 'Great Bath.' Like Harappa, this city also had a citadel and a lower town. The city had several structures, a warehouse or granary and a pillared hall. A structure here is identified as a collegiate building, which was used by high officials or priests. It also had a neatly built drainage system. Mohenjo-Daro was frequently affected by the floods of the river Sindh. Deposits of soil brought by the floods are found at several parts of the site. The great bath is considered to have been built and finished very perfectly. The walls of the bathing pool were 1.36 m in thick and bitumen lining has been used in this structure as waterproofing. The great bath occupies the centre of the complex of structure and it has several rooms all around and there is a well on the eastern side, within the enclosure. The great bath and the warehouse were built on a high ground.

Ganeriwala

Ganeriwala is in the Punjab province of Pakistan close to Indo-Pakistan border in the Cholistan desert. Ganeriwala is comparable to Mohenjo-Daro and is on the bed of the now dried-up Ghaggar or Sarasvati River (Possehl 2002). The site covering about 80 hectares in size, and discovered in the 1970s by Mughal, has not been excavated yet. Considering its size, it must have been a major urban center.

Kot Diji

Kot Diji is located in the southern end of the Rohri hills in Pakistan. The site was excavated by Pakistani

Archaeological Department between 1955 and 1957. This site has evidence for occupation from the Early Harappan to the Mature Harappan. Copper bronze artefacts, etched carnelian beads and terracotta objects have been recovered from this site. The most noteworthy find from the site is a jar with a buffalo motif (Khan 1965). A figure similar to this appears on the *mahayogi* seal.

Lothal

Lothal is one of the major Harappan sites in Ahmadabad District of Gujarat. The term 'Lothal' means 'place of the dead' in Gujarati. Lothal was discovered by S.R. Rao and it was excavated by the ASI from 1954-55 to 1959-60 and 1961-62 and 1962-63 (Rao 1979, 1985). Lothal was occupied during the mature Harappan phase and its occupation continued till about 1750 BCE. This site is well known for the structure identified as dockyard by S.R. Rao. Possehl identifies this site as possessing Sindhi Harappan traits (2002). The settlement has a lower-town, an acropolis and a brick enclosure (tank) identified as a dockyard. The raised area has a structure labelled as warehouse and a building with bathing facility. The site had a brick-lined well and drainage and soakage jars to drain the water from the buildings. Some consider that the stone enclosure was used as a water tank (Leshnik 1968). From the author's understanding, this structure appears as a tank and not as a dockyard. Lothal was a major craft producing centre, and has evidence for bead-making industry. Typical Indus seals have been found at this site, apart from Indus weights, terracotta figurines and burials. It is likely that there existed a port facility close to Lothal on the palaeo-coastline of this region

Sutakgendor

Sutkagendor represents the western boundary of the Indus Valley Civilization (Stein 1931). Scholars consider that it did not act as a port, since it was located far away from the coast. It might have had a satellite port adjacent to the coast. This site produced chipped stone artefacts, copper bronze artefacts and shell bangle fragments. Sutkagendor is considered a Sindhi Harappan site in the Kulli Domain, but no Kulli pottery is found at this site (Possehl 2002: 80). It might have served as a point of contact between the Indus region and West Asian civilizations.

Kulli

Kulli is a site related to the Harappan cultural zone and this site is in the highlands west of the Indus valley in Southern Baluchistan (Stein 1931). It was excavated by Aurel Stein in 1927-28. The ceramic materials from this site resemble those form the Mature Harappan sites. It is treated as a part of separate Harappan domain.

Kalibangan

Kalibangan is a town site with Sothi-Siswal and Mature Harappan cultural evidence. The site is located near the river Saraswathi close to the confluence of Drisdavathi in Rajasthan. The site was excavated between 1960 and 1969 (Lal 1970-71, 1979, 1984, 1997; B.K. Thapar 1975). It has a double-mound lay out. The site has revealed evidence for ploughing in Period I, and the patterns of ploughing are compared to the ploughing patterns in the fields of modern Rajasthan (Lal 1970-71). During the Mature Harappan phase, the town had two parts, namely, higher town and lower town. In Period II, the higher town had fortification and in the

southern apart of this town, fire altars were found. Several Indus stamps and seals have been collected from this site. In some corners of the streets, wooden fenders were erected to prevent damage to the walls. Kalibangan has revealed pot burials, extended inhumation in pits and pits without skeletal materials.

Chanhudharo

Chanhudharo lies in Pakistan and this site was excavated by Majumdar (1934) and later by Mackay (1943). The site has evidence for occupation from Mature Harappan to Late Harappan. The site had baked brick structures bathrooms and a drainage system. Street planning was also noticed. Evidence for bead factory has been found and this site perhaps served as a regional craft producing centre for the Harappans.

Dholavira

Dholavira is another important Harappan site in India and it was discovered by J.P. Joshi. It is in the Khadir Island of the Great Rann of Kutch. It is a large site, covering about 60 hectares of area (Bhist 1991, 1999). Seven periods of occupations dating from ca. 2650 to 1450 BCE have been identified at this site by R.S. Bhist. This site was excavated from the 1989 by the ASI. This site had a citadel, a middle town and a lower town. It had rampart walls and gateways, streets and a water storage facility and a rock cut reservoir. Its citadel was enclosed by 11 m thick fortification in Stage I. This stage has produced evidence for copper working, bead making, and planned architecture. During the Stage III, people created hydraulic facilities, and in total 16 reservoirs have been found at this site. The eastern reservoir was about

24 m in width and had a depth of 5 m to 7 m. During the end of Stage III, the site seems to have been struck by an earthquake. Stage IV yielded several antiquities of the Mature Harappan phase. This site has revealed a signboard inscription composed of Indus symbols. The site has interestingly the white painted pottery generally associated with the sites of Ahar-Banas cultures. This site has reported cist burial which is very interesting and the roots of the megalithic burial tradition might have begun at this site (Subramanian 2010).

Rakhigarhi

Rakhigarhi (Rakhishahpur) is in Hissar district of Haryana. The site covers over 90 hectares in area. It is on the bank of the river Dhrisdawati, a tributary of the river Saraswati. It has evidence for Early, Mature and Late Harappan phases. The site, which has both Sothi-Siswal and Mature Harappan occupation, is said to have been settled around 2500 BCE. The site has extensive use of baked bricks, but their dimensions vary from the standards Harappan size of 1:2:4, and have 1: 2: 3. The site was excavated by Amrendranath of ASI (Nath 1998, 1999). Fortification, structures and house drainage connecting to a street drainage, streets and several artefacts such as beads have been found. As at Kalibangan, fire altars were also reported here. Harappan ceramics and unicorn seals have been reported. Copper bronze and gold objects have been recovered. A mature Harappan cemetery has also been excavated.

Harappan Town Planning

Architecture formed an important component of the Harappan settlements from the early period. Mud brick was

used extensively in the Early and Mature Harappan periods. Large platforms were used by the Harappans to protect their settlements from the floods. Many of the buildings have stone foundations to protect them against the seepage of the ground water. With regard to the Indus valley, architecture, Possehl reports about certain common myths (Possehl 2002: 99). Only at Mohenjo-Daro burnt bricks have been extensively used and even in Harappa mud bricks have been reported. Generally baked bricks have been used selectively for drainage, the lining of wells and thrashing floors. At some sites, stones have been used and no baked brick was used, e.g. Rojdi (Possehl 2002: 99). Further he observes that the areas such as acropolis and lower towns were not found in all the towns and the grid pattern is also not uniform (Possehl 2002: 101).

The popular notion is that the civilization had mainly cities such as Harappa and Mohenjo-Daro, but actually the civilization had both cites and rural settlements, and even included semi-nomadic pastoral groups and nomadic hunter gatherers in some pockets.

The town planning of the Harappans displays a level of perfection that is still lacking in many regions of the contemporary world. The Harappan towns are well laid out and they are somewhat similar to a grid pattern. Mackay (1935, 1943) believes that roads were arranged in such a way that the winds could clear the polluted air out of the city. The major cities were divided into a citadel and a lower town. A rampart wall marked the citadel area, which stood on a platform. The rampart wall had gates and bastions at regular intervals and a moat surrounded the wall. Such a well organized town plan is noticed at Harappa and Mohenjo-Daro. The citadel at Mohenjo-Daro was not as elaborate as Harappa. The other cities such as Kalibangan and Lothal also

reveal similar plans. Surkotada in Gujarat and Banawali in Haryana all had rampart walls. Sutkagendor and Sutka Koh on the Makran coast in Pakistan had hill forts. One point to be remembered is that all Harappan sites do not have similar plan, and variations are seen.

The streets of the Harappan cities were well planned. At Mohenjo-Daro, streets measured ca. 2.75 m to 10.5 m in width. The main streets were linked by several small lanes. The small lanes had entrances to the houses. The lanes had one well each. At Kalibangan the streets have been paved. In the corners of the streets, wooden posts were provided to protect the houses from the movement of carts. In the major cites, mostly burnt bricks were used, and in some cases sun dried brick were used.

Drainage System

One of the most remarkable aspects of the Harappan culture is the use of an advanced drainage system. The drainage system was carefully constructed to take away the dirty water away from the town. It suggests that they cared for cleanliness and hygiene. The closed drains were built with baked bricks. The drains had apertures at intervals and they joined the main culverts. At a few sites soakage jars were used for draining the water.

Residential Buildings

Many types of residential houses have been found at the Harappan sites. Small houses had just two rooms, while the large houses had more than two rooms. The large houses had kitchens, courtyards and bathrooms as well. Some of the houses also had an upper storey. A noteworthy feature of the Harappan houses was the lack of evidence for the existence of windows. The floors of the houses were neatly rammed. At Kalibangan, a house floor was paved with tiles with designs.

At some sites, separate industrial quarters were also present. Perhaps artisans lived in such quarters. A separate quarter for workmen was found at Harappa.

Public Buildings and Facilities

A large number of public buildings and utilities were present at the Harappan cities. We are not sure of their purpose. Based on the available and circumstantial evidences, they are identified as granaries, palaces, temples and collegiate buildings. Granaries/warehouses are one type of public buildings found at some of the Harappan sites. The identification of granary is debated by scholars (Possehl 2002). Perhaps it was used as a warehouse. The warehouse stood on a platform, which was divided into several blocks by narrow passages, for free movement of air. Perhaps the warehouse had timber superstructures.

The Great Bath of Mohenjo-Daro

The Great Bath at Mohenjo-Daro is a facility of its own kind. The total size of the feature was about 54.8 m x 33 m. The bath proper measured about 11.9 x 7 m. Its depth was 2.4 m and was reached by flights of steps on two sides. The bath had two storied rooms around, which probably served as cloakrooms. The bath had been made watertight by laying bricks properly and also by using bitumen. Wells present nearby the bath supplied the fresh water. It had an outlet to drain the water. It is contended the bath could have been used for ritual purposes.

Water Tank or the Dockyard? at Lothal

A massive brick structure measuring about 216 m x 38 m found at Lothal is identified as a dockyard by S.R. Rao. No

such structure has been found in any of the Harappan sites. Its present depth is about 4.2 m. While some suggest that it could have been used as a water tank (Leshnik 1968), others are of the view that it served as a dockyard (Rao 1985), meant for berthing ships. Excavations suggest it is connected with the old river bed of the river Sabarmathi. The author's personal observation is that it must have acted as a water tank, definitely not a dockyard.

Water Harvesting and Ideology

Water formed an important component of the Indus Valley Civilization. Cleaning by water was an important component of their ideology (Jansen 1993; Possehl 2002). The presence of the Great Bath at Mohenjo-Daro, and the features such as the water tank/reservoirs at Dholavira and Lothal suggest that much care was taken to harvest store water. This might be an indication that rain water was not abundant in the Harappan areas and the rainfall pattern was similar to that of the present-day rainfall of this region. Wells were also used by the Harappans for tapping the ground water and the houses had bathrooms.

Material Culture

The Harappan culture was rich in material culture, which formed an important aspect of the civilization. The Harappan people used a wide range of objects. The list of objects found at the Harappan sites is exhaustive. Some of the important material cultural remains are described below.

Pottery

The pottery in the genesis stage of the Harappan culture, i.e. in the Neolithic, was hand formed. Before the advent of pottery, baskets coated with bitumen were in use. Some of the early pottery had marking of baskets on the exterior. Probably, the Harappan used the potter's wheel for the first time in South Asia. The Harappan pottery has attractive slip on the exterior in most cases. The pottery is generally red. The art of pottery making had attained perfection in the Harappan culture. Large varieties of pottery were made. The Harappan pottery has beautiful paintings on black colour on red surfaces. Red orange, blue and yellow coloured paintings also occur. There is also a pottery variety called reserve slipped ware in certain contexts. The paintings include geometric patterns, animal, birds, fishes, etc. paintings of plants, trees and *pipal* leaves are also found on pottery. Mythical human figures also occur on some ceramic varieties. Perforated jar is a frequently occurring pottery type of the Harappan culture. "S" shaped jar is also a very characteristic ceramic form. A painting on a pot at Lothal is reported to remind the *Panchatantra* story of the crow with a fish on its mouth, atop a tree and jackal trying to cheat the crow (Rao 1985)

Ornaments

The Harappans used a variety of ornaments made of various metals such as gold, silver and copper and various semi-precious stone varieties. Necklaces, armlets, earrings, bangles and finger rings have been found at some of the Harappan sites. Shell, terracotta, ivory and faience were also used by the Harappans. Harappan beads were quite attractive and were made of different stones, viz., carnelian, agate, chalcedony and jasper. They pioneered bead production technology in India.

Weights and Measures

Another remarkable feature of Harappan culture is the use of standardized weights and measures. Several cubical pieces of weights have been found at Harappan sites. This indicates that, perhaps, there was a common authority to standardize the weights and measures. Weights of various sizes have been found; the largest weight measured 10.97 kg. A fragmentary bronze rod from Harappa is believed to have been used as scale. The Harappan angulam is believed to be measuring about 1.75 cm. It is contended that this measure formed the basis for the measure called angulam used in ancient as well as modern India (Danino 2005, 2008; Balasubramanian and Joshi 2008).

Harappan Seals and Script

A number of seals made of steatite and terracotta are found at the Harappan sites. They bear images of animals, humans and composite figures (human and animal) and also have symbols, which are suggested to represent a script. Some of the seals have a standard and an animal in front. Several of the seals have both the figures and markings, while

others have only the markings. The back of the seals has hooks, which were perhaps used to tie them around an object. Most of the seals come from Harappa and Mohenjo-Daro. It is suggested that they were perhaps used in trade.

One of the hot topic related to the Harappan culture concerns about the decipherment of its script. There are more than 3000 seals and sealings with inscribed materials found from the Harappan sites on pottery, seals, tools and weapons, according to Iravatham Mahadevan (1977), and the number is 4200 according to Gurumurthy (1999: 149). Almost 90 percent of Harappan writing evidence comes from the sites of Harappa and Mohenjo-Daro. Evidence for the Harappan script is not frequently found in other sites. The seals are square or rectangular in shape. The number of seal impressions is less in the Harappan sites and hence it is suggested that they might not have been used as done in the Mesopotamian civilization. The seal with animal with single horn called unicorn is found in large numbers. Sometimes it appears as an animal in profile rather than unicorn.

Till now, we do not know what exactly these markings mean and what they refer to. They appear to be partly pictographic and partly ideographic in nature. One is not sure whether they had phonetic values. There have been several attempts to decipher these markings. However, no convincing identification has been made so far. Many scholars including B.B. Lal, I. Mahadevan and Asko Parpola have studied these writing? on the seals. Some propose that these inscriptions are in Indo-Aryan language (S.R. Rao 1982), while others identify it as Proto-Dravidian (e.g. Father Henry Heras 1953) and even Sumerian and Egyptian.

Asko Parpola is of the view that the Indus language is Dravidian (1994). I. Mahadevan believes that the Indus script is an early form of Dravidian (1998, 1999).Gurumurthy argues that the Harappan script continued to survive in Deccan and South India in the Chalcolithic and Iron Age (Gurumurthy 1999: 149-156). Based on this continuity, he argues that the Indus script is Dravidian and Dravidians are the descendants of the Harappans (1999:156). R. Mathivanan is of the view that the Indus script is Dravidian/Tamil (1991, 1995). Winters (1984) argues that the Indus writing is in Dravidian.

The inscriptions are said to have been written from right to left direction. If these inscriptions are deciphered one day, we may solve the puzzle of the origin of the Harappan culture. A few pottery fragments from Kalibangan, Lothal and other sites bear Harappan characters.

There are researchers who argue that the Indus script is not a writing system at all (Farmer *et al.* 2004). However, a recent study by Rajesh P. N. Rao *et al.* (2009) indicates that Indus symbols represent "a linguistic writing system rather than a nonlinguistic symbol system." There is also a view that the Indus valley script could have been used to write more than one script (Possehl 2002). Some of the post-firing graffiti found on the megalithic pottery of South India are considered to resemble the symbols of the Harappan seals (Lal 1962: Mahadevan 2001).

Economy

Agriculture, animal domestication, craft manufacture and trade contributed to the Harappan economy.

Agriculture

The Harappans practiced agriculture in a large scale. The botanical remains from the sites of Harappa, Mohenjo-Daro, and other sites attest to this. They mainly cultivated wheat, barley, sesame, dates and leguminous plants. Evidence of rice is found at Lothal and Rangpur. The piece of clothe found at Mohenjo-Daro and the clothe patterns found on the images from the Harappan sites indicate that they cultivated cotton. In the later stages of Harappan culture introduction of African crops are noticed (Madellaa and Fuller 2006).

Animal Domestication

The Harappan people domesticated a variety of animals including cattle, buffalo, goat, sheep, cat, dog and pigs. The Harappan cattle were huge with large humps. Such bulls are beautifully depicted on the seals. They also domesticated camel and ass, which were used for transportation of goods. It is not sure whether horse was used by the Harappans, though it is reported from Surkotada in Gujarat and in a few other contexts.

Technology and Crafts

The Harappan people were well advanced in technology. The Harappan pottery with beautiful paintings indicates their advanced pottery making skills. Pieces of cloth and spindle-whorls suggest that weaving was in vogue. Needles of copper and bronze have also been found. Bead

making was also a major craft. There are several types and kinds of beads available from the Harappan sites. Bead makers' workshops have been found at Chanhudaro, Lothal and from a few other sites. They had achieved great skills in designing and executing beads of various stones, especially carnelian beads of very long size. Their skills are very well exhibited in the execution of various animal figures on the seals. They had the knowledge of making lime plaster. No evidence of glass has been found at the Harappan sites, but evidence of faience is reported at Kalibangan (Possehl 2002: 91). Objects such as boxes, beads and bangles made of faience have been reported.

More than 30 types of stones were used by the Harappans for making beads. Etching of carnelian beads was known to the Harappans and as a result they could produce a number of designs on the red coloured carnelian beads. This technology continued even in the megalithic burial practicing people of South India. Similarly, the use of Chank shells or *Turbinella pyrum* for making bangles was started by them (Kenoyer 1995). This particular tradition also continues in the Early Historic period in Tamil Nadu (Athiyaman 2000).

Metallurgy

Harappan metallurgy was very sophisticated. They had knowledge of copper, tin, gold, arsenic, lead, and electrum (Possehl 2002: 93) made copper and bronze artefacts. Copper objects are first attested in the Period III of Mehrgarh around 5000 BCE. They used copper tools like lance heads, chisels, axes, adzes and saws. Also weapons of war such as spears, daggers were used. It is reported that copper was acquired from the mines in Rajasthan, and also

perhaps from West Asia. The Harappan people also used silver and gold ornaments.

Trade and Commerce

Trade and exchange played a major role in the economy of the Harappans, and it seems to be one of the main factors for the efflorescence of the major cities as well as the Harappan culture. The warehouses, weight and measures and the seals all indicate that trade contributed to the Harappan economy.

There was internal trade among the Indus Valley cities as well as external trade with other cultures. Metal, shell, precious stones and food grains were involved in the trade. We are not sure whether the Harappan people used any currency. Perhaps they adopted the barter system, where goods were exchanged. Toy carts found in the Harappan sites suggest that carts were used for transportation of goods through land.

The Harappans also traded with the cities of other civilizations such as Sumerian and Mesopotamian. The artefacts and seals of Harappan origin found in West Asia are pointers to the maritime trade activities of the Harappans. The image of a mast-less ship found on a Harappan seal suggests the maritime trade activities of the Harappans. A structure found at Lothal is identified as dockyard. Further evidence is available in the form of seals of Indus Valley from Mesopotamia. The cylindrical seals of Mesopotamian type occur at the Harappan sites. The Mesopotamian records mention about the region of Meluhha, which is identified with the Indus Valley.

The Harappans perhaps traded on materials from different regions. They probably obtained copper from

Rajasthan. Gold might have been obtained from South India (Pruthi 2004: 212) and precious stones like agate, Chalcedony carnelian were acquired from Gujarat. Lead might have come from East India. Lapis lazuli, which is a precious stone found in northeastern Afghanistan, was an important item of Harappan trade. Thus the demand for goods within the Harappan culture and also outside in West Asia facilitated the trade activities. They might have also explored the spice sources of the Kerala coast.

Harappan Polity

Harappan polity has been an issue of debate (Ratnagar 1991). We do not have detailed clues as to the political systems of the Harappans. The size of the cities, the existence of citadels and the architecture of specialised buildings indicate some kind of political system must have existed. The bearded human figure found at Mohenjo-Daro is identified as priest king. The huge warehouses also perhaps point to the existence of tax collection or means to collect the surplus. This indirectly indicates the existence of a polity. Some scholars argue for a chiefdom level of political organization. As suggested earlier, we need not expect a monolithic system for the entire Harappan area. There were perhaps different levels of political organizations from band level organization in some regions such as Bagor in Rajasthan to city states of Harappa and Mohenjo-Daro.

Art

Though the Harappan architecture is considered monotonous and plain, a lot evidence for art comes from the

Harappan sites. The red jasper male torso figure from Harappa, grey stone dancing figures, the bronze dancing girl from Mohenjo-Daro and the priest king from Mohenjo-Daro all suggest the artistic talents of the Harappan population. The paintings on the pottery reveal the aesthetic aspects of Harappan culture. Also the nicely made Harappan seals which depict various animal figures suggest the realistic nature of the Harappan art. Classical terracotta figurines are also important objects of art from Harappan sites. The seals perhaps serve as the best exposition on the Harappan art. Two bronze images of a dancing girl suggest that dancing was appreciated by the Harappans. Stone sculptures have also been found at Harappan sites. A broken stone image of the bearded male figure with designed clothes on the shoulder from Mohenjo-Daro is identified as a priest. Several terracotta toy objects such as carts and rattle also depict their artistic skills.

Recreation and Amusements

The Harappans also seem to have enjoyed various games for entertainment. Marbles, dice, balls, tubular shaped gamesmen have also been collected at Harappan sites. At Lothal, a few gamesmen with ram head and ox have been recovered. Probably, they knew a game similar to the modern chess. A lot of toy objects such as carts, birds, rattles, whistles and human figures have been encountered at the Harappan sites. Perhaps they were meant for the children to play.

Harappan Religion

The Harappans seem to have mixed religious beliefs (polytheistic). The fire pits with triangular cakes found at

Kalibangan most probably indicate fire worship. A lot of female figures have been found at the Harappan sites. They are considered mother goddesses. Horned deities have also been depicted on the seals and pottery. John Marshal identified an image on a Harappan seal as Siva or pasupathi. The three-faced figure is seated in *yogasana* posture, surrounded by many animal figures. Cylindrical objects found at the Harappan sites are considered *Siva lingams*. The animal and tree figures on the seals suggest that they were worshipped. They worshipped animals and plants, and deities were sometimes composite in nature, incorporating human and animal features.

Funerary Customs

The Harappans buried the dead. A variety of burial practices are noticed in the Harappan cultural zone. Complete, fractional and double burials are found in Harappan sites. In the complete burials, the entire body was placed in a pit and buried. In the fractional burials, a few bones from the skeleton were buried. Sometimes ornaments and pottery were also placed by the side of the skeletal remains. At Kalibangan, brick built chambers have been used to bury the dead. At Lothal, a double burial has been found. There was multiplicity of burial practices in the Harappan region. Dholavira has some burial types resembling the megalithic burials of south India.

Origin and Authorship

Origin and authorship of any culture or political dynasty has dominated the minds of researchers. Some researchers are of the view that such questions cannot be explained meaningfully. Ratnagar (2006: 135) rightly

observes that "'origins' are not amenable to straightforward archaeological interpretations." She adds that "Nor can we ever identify the ethnic origins or affiliations of the Harappan ruling elite or the various groups that constituted the populace" (Ratnagar 2006: 136). Despite the abundance of evidence from the Harappan sites, researchers have not been able to clearly identify the people who were responsible for this magnificent civilization. There are several theories prevalent on the origin and authorship of Harappan culture. While some scholars are of the opinion that the Harappans were the Aryans, others argue that they were Dravidians. The skeletal remains also do not help us come to any definite conclusion and indicate that the population belonged to different groups. Why do we identify cultures? Perhaps we want to possess the ancient cultures and claim legitimacy several issues for the contemporary society.

Origin

There are several theories on the origin of the Harappan civilization.

West Asian

Some scholars are of the view that the source of the Harappan culture lies in West Asia. Since most of the Pre-Harappan sites with very early dates are found in Baluchistan and Afghanistan, and also due to the similarities of the Harappan and the West Asian cultures, it is argued that the Harappan culture originated in West Asia. Fairservis and Stuart Piggot are the scholars, who favour this theory.

Indigenous

A few scholars support the view that the Harappan culture developed from the Early Harappan cultures of northwestern India. The similarity in pottery, house type and other cultural traits is suggested to indicate this. A. Ghosh and Y.D. Sharma support this point of view. S.S. Sarkar's (1937, 1951) study of skeletal remains point out similarities between the people of the Harappan sites with those living in Punjab, Gujarat, and Pakistan now.

Comments

With the limited evidence available, it is not possible to say definitely about the origin of Harappan culture. It appears that this culture developed indigenously, but with ideas and inspiration from outside. However, one cannot rule out the migration of ideas and people from West Asia into the Harappan cultural region. Moreover, it is not necessary that the Harappan culture was established by one particular ethnic group. They could have been several ethnic groups behind the civilization, as seen in India now. Perhaps this culture was a result of efficient management, organization, collaboration and alliance.

Authorship

Like origins, the authorship of the civilization also has been subjected to considerable debate and discussion. The Aryan authorship theory is discussed below, while the Dravidian theory is discussed in the next section.

The Aryans, who were earlier considered migrants to India from Central Asia, are said to be the authors of the Harappan culture. It is argued that the groups with whom Aryans fought, as mentioned in the Vedas, might not have been non-Aryans, but only a group of Aryans (Dhavalikar

1995). The distribution of the Late Harappan sites in the area mentioned in the Vedas is also said to suggest the relations between the Harappan sites and the Aryans. The term *ayas* mentioned in the *Vedas* is taken to indicate copper, not iron as earlier interpreted. Thus denying the earlier argument that the Vedic people only knew iron and hence they could not have founded the Bronze Age Harappan culture. The fireplaces found in Kalibangan are said to indicate the practice of *yagnas* (fire rituals), which is one of the important rituals of the Aryans. Michel Danino has been supporting the theory of the Aryan origin of the Indus civilization (Danino 2006). R.S. Sharma vehemently denies Aryan origin of the Indus valley (2006).

Causes for the transformation (Decline) of the Harappan Culture

Why did the Harappan culture disappear? What happened to the glorious civilization that lasted hundreds of years? These are some of the questions that come to the minds of the scholars who study the Harappan culture. However, nobody has come up with a satisfactory answer. Thus, we have several theories in vogue. Some scholars prefer to use the term transformation rather than decline.

Attack by the Invaders

One of the popular theories was marauding tribes (Aryans?) attacked the Indus Valley peoples and the civilization disappeared. Mainly the invading Aryans are said to have destroyed the civilization. The remains of skeletons in tumbled position at Mohenjo-Daro, the lack of implements of offence and evidence of burning at a few sites Harappan sites are the evidence offered for this theory. These interpretations

are reviewed now and scholars consider that the invasion theory is not acceptable.

Environmental Factors

It is suggested by some scholars that there was deterioration of environmental conditions in the Indus Valley due to deforestation and extensive grazing of animals. The decrease in rainfall led to the negative conditions, which did not support agriculture, and as a result the civilization gradually disappeared. The location of several Harappan settlements on the dried-up river Ghagger (Saraswati) is seen as support to this claim. The decrease in the fertility of soil, due to the invasion of desert is also contributed to the deterioration of environment (G. Singh 1971).

Decline in Trade

Decline in the trade with West Asia is also one of the causes suggested for the fall of this civilization. The Mesopotamian civilization with which the Harappans had trade relations began to decline. This added to the other causes for the waning of Harappan culture.

Comments

It appears that there could be multiple causes for the fall of this civilization. More than the above causes the failure of the cultural system could have contributed to the fall of or transformation of the Harappans. Perhaps the environmental and economic systems broke down causing the disappearance of this civilization.

It is now argued that the descendants of the Harappan culture transformed into a different culture(s?) in the Indian

Punjab region (Possehl 2002: 250). It is likely that a section of the Harappans moved to this region.

2.2. Indus Valley Civilization and Dravidian/Tamil Culture

The contemporary cultural variation within India is one of the main reasons for the debates concerning the authorship of the Harappan culture. Presence of the dark skinned Dravidian speaking people in South India, fair-skinned Indo-Aryan speakers present in India forced the European researchers to associate this civilization with one or the other group. In Post-Independence era, academicians and well as the public from these two groups have debated over the authorship of this civilization. There is a dominant popular culture interested in the authorship of the civilization. There are a lot of contemporary socio-politics influencing these interpretations. Perhaps the desire to posses the civilization has induced the people to claim authorship of various civilizations. In addition, the socio-politics in the 19^{th} and 20^{th} century Tamil region also contributed to the debates concerning the Tamil affiliation of the Indus Valley civilization.

Ancestors of Dravidians or people who speak Dravidian languages (Proto-Dravidians) are considered to be the authors of the Harappan culture by several researchers. Taking clues from the Vedas, which speak of grand cities of non-Aryans, scholars contended that the Vedas refer to the Dravidians who lived in the Harappan cities and the invasion of Aryans destroyed the Harappan cities. The exclusion of Sindhu Savira from the Aryans in the later Grihya Sutras is suggested to indicate the non-Aryan nature of the Harappan people. The frequent references to the fights between the

Aryans and other groups mentioned in the Vedas are suggested to support this claim. It has been argued that the Proto-Dravidians entered India via Afghanistan about 10,000 years ago and they migrated to South India due to the influx of the Indo-Aryan speakers based on genetic studies (Majumder *et al.* 1999). The Harappan script is also identified as Dravidian or Proto Dravidian. The usage of Brahui, a language similar to Dravidian linguistic family, in Afghanistan is also taken to indicate the Dravidian authorship of Harappan culture.

Scholars believe that Dravidians were occupying the entire India and moved southwards due to the migrating Indo-Aryan speakers (Thapar 2003). Winters (1981, 2010) points out that close relationships existed between the Dravidians and the African populations based on "genetic, biotic, linguistic, anthropological and archaeological evidence" He points out the similarities between the crops cultivated by the Dravidians and the Africans. He states that the African crops appear in the Harappan period. He highlights the fact that the Dravidian terms for certain crops are of African origin (Winters, 1981 1999a, 1999b).

It is suggested that pastoral nomadism originated in Central Asia and also in south Eastern Europe and caused the movement of population groups to various regions (Zvelebil 1980). A few researchers have contended that Dravidian and Indo-Iranian languages of South Asia emerged from (Renfrew 1987; Cavalli-Sforza 1988) the proto-Elamo-Dravidian language of the Elamites who occupied south western Iran moved with farming towards the east (Cavalli-Sforza *et al.* 1994; Renfrew 1996). Later these groups were over run by the Indo-Aryan speaking groups (Renfrew 1987, 1996)

Some researchers do not accept the .Dravidian hypothesis. Danino (2007) is critical of Dravidian hypothesis. Fuller (2007) argues for South Indian origin for the Dravidian linguistic groups.

2.3 Discussion

Various positions on the authorship of the Harappan culture have been summed up above. It is not easy to identify the migration of various groups that easily, through archaeology. Inter-disciplinary research initiatives combining archaeology, history and linguistics are essential to understand the civilization. Before going to investigate the Harappan cultures, we need study and understand the cultures that occupied South India more systematically. In addition, applied archaeological research on the Harappan civilization can also be encouraged, so that we can some lessons from the behaviour of the Harappans in management and organization of contemporary urban centres of India.

CHAPTER 3 CULTURES CONTEMPORARY TO AND POST-DATING THE HARAPPANS (ca. 5000 BCE to 500 BCE)

The period that commences with the beginning of the Harappan culture (ca. 6000 BCE onwards) is a formative period in the history of India. Several cultures existed in different parts of India, when the Harappan culture flourished in the northwestern part of South Asia. The people who produced these cultures were definitely different from the Harappans in one way or another. Although archaeologists and researchers are well aware that these cultures, often labelled as the 'Neolithic' or 'Chalcolithic' or 'Microlithic' existed in the shadow of the Harappans, some of the Indian public and individuals interested in the study of the past, do not know that these cultures exist, for their mind is preoccupied with the Harappan culture. This is because of the higher attention paid to the Harappan culture, which can partly be attributed to the emergence of colonialism, as well as the nationalism-centered socio-politics within India. The material wealth and developments in the Harappan period have influenced many contemporary and post-Harappan cultures of India. To understand the history of population origin and dispersal of India thoroughly, these cultures too have to be investigated systematically.

The intention of this chapter is to introduce and bring out the significance of the cultures that were contemporary to the Harappans, and to point out the contribution of these cultures in the formation of the South Indian and Tamil populations. A few of the Neolithic and Chalcolithic cultures coexisted and also continued to exist even after the decline of

the mature Harappan culture. More importantly the microlithic-using hunter-gatherers too survived in many parts of India, including Tamil Nadu. Thus there was a cultural mosaic or diversity across India, when the Harappans flourished.

As discussed in Chapter 2, the foundations of the Harappan culture go back to the adaptation patterns of the microlithic hunter-gatherers, and the early herders and farmers of the Late Pleistocene-Early Holocene period in the Indo-Iranian borderlands. However, not all Neolithic and Chalcolithic cultures of South Asia led to the development of Harappan like cultures/civilizations. We understand that the cultures do not develop in a unilinear fashion, and a number of complex factors are involved in the development of systems like that of the Harappans.

3.1. Neolithic Culture

The Neolithic Culture (New Stone Age) generally succeeded the Mesolithic culture in some parts of the world. The early classification of cultures was mainly based on the lithic artefacts, and since the implements of this period, i.e. the polished stone axes (celts) differed from the earlier stone tools, this cultural period was labelled 'Neolithic.'

The label Neolithic not only refers to the changes in the types of implements, but also the entire new ways of life from that of the mircolithic using hunter-gatherers. The Neolithic Age is considered an important cultural period in human history, as humans began to domesticate animals and cultivate crops from this period. Humans, who were merely food-gatherers before, became food producers during this period. The Neolithic people domesticated sheep, goat and cattle. Besides the meat and milk from sheep, goat and cattle,

they also subsisted on hunting and gathering. The stone tools used in this period were triangular polished stone axes (celts), querns, rubbing stones, blades, scrapers and other lithic artefacts. The beginning of agriculture and animal domestication forced a number of developments in this period. Permanent and semi-permanent settlements with house structures emerged. Probably, the necessity of storing milk and other produce made them to invent pottery containers. Gordon Childe refers to the developments in this period as 'Neolithic Revolution,' since there was considerable development both in economy and tool technology (Childe 1936). The Neolithic developments are no longer considered a sudden revolution in the history, but a gradual adaptive process.

In West Asia, there is evidence for the beginning of domestication around 10,000 BCE (Richerson *et al.* 2001; Gupta 2004; Dow *et al.* 2005). Cultivation of peas, lentils, almond, barley, bread wheat, and cereals took place around 8,000 BCE. The sites of Fertile Crescent, especially, Jericho and Jarmo yielded the earliest evidence of food production.

The Hoabinhian culture (10,000 BP), evidenced at Spirit Caves in Thailand too yielded evidence of betel nut, pepper, cucumber, and bottle gourd from the very early period (Gormon 1971; Solheim 2003:1). Scholars attributed climate change as one of the main reasons for the beginning of animal domestication and farming (Dow *et al.*2005, Richerson *et al.*2001).

Neolithic Culture in India

The first Neolithic Celt (stone axe) of India was noticed at Lingsugur in Karnataka in 1842. Le Mesurier found a celt near Tons River in Uttar Pradesh in 1860. However, all

the sites with polished stone axes cannot be classified under Neolithic sites. The Neolithic sites should have the evidence for plant and/or animal domestication. The Indian Neolithic culture is divided into five main regional divisions, namely,

- North-Western Neolithic Culture (Pakistan)
- Northern Neolithic Culture
- Eastern Neolithic Culture
- Central Indian Neolithic Culture
- Southern Neolithic Culture

All the Neolithic cultures of the Indian subcontinent do not belong to the same chronological span, while the sites in the northwestern part of South Asia are of early period; those in Eastern India are later in date. The earliest evidence for this period is found in the present day Pakistan at Mehrgarh as discussed in Chapter 2. This site is dated to 9,000 BP. However, there is a comparable date for the introduction of rice at the site of Koldihwa (U.P), 7,000-5,000 BCE (Tewari *et al.* 2006). Broadly, the Neolithic sites of Central India are considered to be as early as 4,000-5,000 BCE. The Neolithic culture of Southern India is not older than 3000 BCE. The Neolithic period lasted till about 1000 BCE in South India.

Northwestern Neolithic Culture

The Northwestern Neolithic culture has several important Neolithic sites. There are two major excavated sites from this region, namely, Mehrgarh and Kili Ghul Mohammad, near Quetta. A brief account of this culture has been discussed as a prelude to the Harappan culture in Chapter 2 and hence, we shall not repeat it here. It is actually pre-Harappan in chronology and served as the foundation for the Harappan culture.

Northern Neolithic Culture

The Neolithic culture of Northern India refers to the sites found mainly in the Kashmir Valley. The important sites of this culture are Burzahom, Gofkral, and Martand in Kashmir. Burzahom has a special place in the Neolithic history of India. There are four cultural periods (first two are of Neolithic; third, megalithic and the fourth, early historic). In period I of this site, pit dwellings, a unique feature of Kashmir Neolithic sites were recorded. The larger pit had a mouth of 2.7 m diameter on top, expanding to 4.6 m at the bottom, with a depth of 4 m. The major stone implements are polished axes, chisels, adzes, pounders, mace heads, and grinders. Bone tools are unique to Burzahom and they include harpoons, needles, awls, spearheads, arrowheads, daggers, and scrapers. The pottery is handmade and coiling technique has been adopted. The major pottery varieties are grey ware and red ware. Mud structures also occur. There is evidence for human and animal (dog) burials. In the later periods, the pottery was wheel made and black burnished ware made its appearance. The Neolithic culture is dated between 2400 and 1400 BCE. Who were these people? What was their language? We are not in a position to comment on these issues at this stage of research. But they formed a group very much different from the Harappans.

Central Indian/Vindhyan Neolithic Cultures

The Neolithic sites of Vindhyan region is one of the important cultural complexes of India (Sharma *et al.*1980; Sharma 1985). Recent research at the sites of Lahuradewa in the Ganga plain and Koldihwa and Mahagara, in Vindhyan region have revealed evidence of rice as early as the 7th to 6th

millennium BCE (Saxena *et al.* 2006; Tewari *et al.*2006). However, some researchers debate the antiquity of rice in this region.

Eastern Neolithic Culture

The eastern Neolithic culture is divided into Assam Cultural Complex and Bihar-Bengal and Orissa Complex (P. Singh 2002).

The important sites of Bengal-Bihar-Orissa Cultural Complex are Chirand and Barudih in Bihar, Tamluk in West Bengal and Kuchai in Orissa. The tool types are axes, wedges, chisels, shouldered hoes, hammer stones, mace heads and chisels. Chirand is one of the important Neolithic sites in India. It yielded a C-14 date of 1650 BCE for the topmost level. Circular huts with a diameter of 2 m are noticed. Both hand-made and wheel-turned potteries were noticed. Chirand too produced evidence of charred grains of paddy husk, wheat and mung. Beads made of agate, carnelian, faience and steatite were recovered from this site.

The important sites of Assam complex are Daojali Hading, Kamakya, Darrang, Khasi, Lakhimpur and Loharghat (S.N. Rao 1977). The tools that are used include shouldered celts, round butted axes, small celts, tanged celts and hammer stones. The raw materials used are dolerite, shale and sandstone. Cord impressed pottery is noticed at few sites. The date of the culture is between 4000 and 1500 BCE. Some of the sites continued in the later period also. A lone C-14 date is available for the Khas-Kalyanput site in Tripura, otherwise this culture is poorly dated (Sharma 2004; Hazarika 2009).

Southern Neolithic Culture

The Neolithic culture of Southern India can be considered an important component of Dravidian culture, if not the genesis of the entire Dravidian population. In South

India, many Neolithic sites occur in the Andhra-Karnataka region (Allchin 1960, 1961; Paddayya 1973; Allchin and Allchin 1982; Korisettar *et al.* 2001; Boivin *et al.* 2005). Many scholars including R. B. Foote, F.R. Allchin, A. Sundara, K. Paddayya, Korisettar, Fuller, Boivin, and Venkatasubbiah have surveyed the southern Neolithic sites (Korisettar *et al.* 2001). This Neolithic groups domesticated cattle, sheep and goat, and also cultivated millets. The Neolithic people accumulated cow dung and burnt them periodically. Perhaps they did this burning for various purposes such as protection from the wild animals in the night, generating heat and festive occasions. Such sites have huge ash mounds. The ash mounds are peculiar to the northern part of Karnataka and the adjoining Andhra Pradesh. Around the ash mounds, evidence for settlement occurs. Kodekal, Kupgal and Budihal (Paddayya 2002) are some of the important ash mound sites in Karnataka. The Neolithic people buried the dead people within their houses. Bruisings (engravings) of cattle were also made on rock surfaces, nearby. They also made cattle figurines in clay and baked them, perhaps as part of rituals or for other unknown purposes. There are scholars who trace these settlers to the Dravidian speakers (Fuller 2007). The evidence for Neolithic culture is largely found in Karnataka and Andhra Pradesh. There are only a few sites yielding Neolithic cultural remains in the northwestern part of Tamil Nadu and almost none in Kerala.

Ash mounds

The earlier settlements of the Neolithic South India are associated with ash mounds, which are noticed mainly in Karnataka and parts of Andhra (Kudatini, Utnur, Kodekal,

and Budihal). Ash mounds are formed due to the accumulation, decomposition and periodic burning of cow dung. The ash mounds consist of highly vitrified ash, soft and compact ash and loose ash, and also decomposed cow dung, at times. Though some scholars (Rami Reddy 1977) earlier considered the ash mounds as part of the iron smelting process and belonging to the Iron Age, now it has been well established that the ash mounds are associated with the Neolithic habitation remains. When pastoralism was at its heights, cow dung was regularly accumulated at a spot and burnt for practical as well as for some ritual purposes. Perhaps in the later Neolithic Age, when agriculture became important, cow dung was perhaps used as manure. The ash mounds yielded bones and burials of cattle also, which suggest that sometimes animals were buried and the ash mound areas were also used as garbage dumping locations. Some of the villages with ash mounds in South India, especially Karnataka, have the names with prefix Budhi or Vibhuthi (which means ash in Kannatan/Tamil), such as Budihal, Budihalli and Vibhuthi Halli, suggesting that these villages have ash mounds. Such ash mounds also occur in Tamil Nadu in Iron Age as well as Early Historic contexts, but they are not as prominent as the Neolithic Ash mounds of Karnataka.

Cultural Periods and Chronology

Three cultural phases were proposed for the Neolithic culture of South India (Allchin and Allchin 1968, 1982). This sequence has now been revised by Fuller based on fresh radiocarbon dates (Fuller *et al.* 2007). The earlier phase has purely Neolithic components and the later phases witnessed agriculture. The following cultural phases of the southern

Neolithic cultures are based on Fuller *et al.* 2007, who has revised the scheme suggested by Allchin 1982.

Neolithic IA is the earliest Neolithic occupation with ceramics and no ash mound was noticed in this phase. Evidence for animal herding and agriculture has been reported as at the sites of Watgal, Kodekal, and Utnur. These communities might have migrated or traded ceramics from other contemporary groups. It is placed around the beginning of 3000 BCE.

Neolithic IB is reported to have begun around 2500 BCE when the first ash mounds appeared at Utnur, Budihal, Palavoy, Brahmagiri A (?) and Kudatini (?). Evidence for sheep, goat and cattle is reported. Despite the absence of plant remains, it is argued that preliminary agriculture might have evolved during this phase.

Neolithic IIA is placed around 2200 BCE. Comparatively less number of ash mounds is noticed and village sites appear on hill tops in this phase. Budihal, Banahalli and T.Narsipur have evidence for this phase. The beginning of Neolithic occupation in southern Karnataka and Tamil Nadu is placed in this phase. Both animal domestication and plant cultivation are reported in this phase.

Neolithic IIB is placed around 2000 BCE and hilltop ash mounds and villages appeared in this phase. Sannarachamma, Hiregudda, Hallur and Paiyyaimpalli are the important sites. Abundant archaeo-botanical evidence for the cultivation of native crops, pulse, wheat and barley, and a large quantity of bone evidence has been found in this phase.

Neolithic III begins around 1800 BCE. The villages show continuity. Sannarachamma, Hiregudda, Tekkalakota Phases I/II, and several other sites belong to this phase. Higher density of Neolithic sites is noticed. Evidence of

chicken bone and crops of African origin are noticed from 1500 BCE. Beginnings of arboriculture, fibre crops and textile production, and introduction of copper and gold objects have also been suggested. This period continued around 1500 BCE, and finally merged with the Iron Age culture.

Material Culture

Use of ceramics is reported from the earliest phases of the southern Neolithic culture. In Phase I, pottery is hand made. Dull grey ware and burnished grey ware are the major types of pottery. The pottery is made of well-levigated clay with added quartz powder or mica. Important shapes include shallow bowls, spouted vessels, handled vessels, jars, dishes on stand and perforated pots. In the later phases, the pottery is both hand made and wheel made. No mica is added, but the clay is gritty. Unburnished grey ware, brown ware, black-on-red ware and white painted BRW are the common ceramic wares. The Neolithic culture must have had contacts with the Jorwe culture, known through the occurrence of similar types of pottery such as spouted vessels in dull red ware and jars with constricted neck. The appearance of black and red ware is placed around 1400 BCE.

Important tools are axes, adzes, scrapes, wedges, chisels, hammer stones, and sling stones. Parallel sided blades, serrated blades, lunettes are the representative tool types of blade industry. In the early phases, shell beads are noticed. In Phase II, beads of steatite, gold, copper, TC, agate, and carnelian occur.

Settlements

The southern Neolithic people lived in thatched huts and traces of wooden postholes are witnessed at a few sites.

The wall was covered with mud and floors were coated with clay and dung. There are debates on the nature of the settlements of the Southern Neolithic culture. Sedentary villages to semi-nomadic settlements have been suggested for the Neolithic ashmound sites (Korisettar *et al.* 2001; Fuller *et al.* 2007.

Burials and Beliefs

The dead were buried below the house floors. Children were buried in urns placed horizontally in north-south orientation with ceramic vessels. In some cases child burials are found, animal burials have also been noticed at some of the sites. Perhaps these people worshipped animals as indicated by the engravings of animal figures on the rock surfaces and the terra cotta animal figurines.

Excavated Sites

Several Neolithic sites have been excavated in south India and majority of the excavated sites are in Andhra Pradesh and Karnataka. Utnur, Nagarjunakonda and Palavoy are the important excavated sites in Andhra Pradesh; Tekkalakota, Maski, Terdal, T.Narsipur, Sanganakallu, Kupgal, Hallur, Brahmagiri, Hemmige, Budihal and Kodekal are in Karnataka and Paiyyampalli is in Tamil Nadu.

Discussions

It is certain that these groups contributed to the formations of at latest a section of the Dravidian speakers in South India. They could be a cluster of Dravidian speaking groups, who got isolated and developed agriculture and pastoralism. Close contacts have been proposed between the Neolithic cultures of Deccan and Neolithic South India

(Paddayya 1973: 88; Wheeler 1948: 295). Wheeler (1948) postulated an eastern origin for the Neolithic tool tradition of South India, which was not accepted by Paddayya (1973: 86). Allchin (1960) derives the source of Southern Neolithic Tradition from West Asia (Allchin 1960: 139-142). He suggests that after adaptation in the Indus valley, they moved to South India and they are responsible for Dravidian languages. A child skull from Brahmagiri has been ascribed to Austro-Asiatic physical type. Intruding Mediterranean type was noticed among the skeletons from Tekkalakota and T.Narsipur, and hence Paddayya (1973) argues that pre-existing populations and their culture was absorbed into the new way of life. Paddayya speaks of new intrusive and old cultures, and cites parallels for this in the Old world (Paddayya 1973: 86). Fuller has argued for local development for Dravidians from the Neolithic period (2007). Although indigenous developments could have happened in this period, migrations of new groups cannot be ruled out in the later phases.

3.2. Chalcolithic Cultures of India

During the Chalcolithic age, people began to produce and use tools made of copper. 'Chalco' means copper, and hence, this period is known as 'Chalcolithic'. The metal implements gave a lot of advantage to the Chalcolithic people. Theoretically, these people could clear forests easily and cultivate the land with the help of metal implements. But in actual terms, it is not certain what kind of qualitative changes were brought by copper implements among these Chalcolithic people. They made tools such as axe, arrowhead, fishhooks and weapons and ornaments. They also used stone tools made of materials like chert and chalcedony, and

pottery. The stone tools included blades and points, and they also used bone tools. They practiced farming and reared sheep/goat and cattle for subsistence. They lived in small village settlements. The Chalcolithic people cultivated bajra (*Pennisetum* variety, *Kambu* in Tamil), black gram and green gram. They also hunted wild animals.

The Chalcolithic people made fine pottery of various types. Black-and-red ware is one type of pottery that they produced. This pottery has black inner surface and red outer surface. Bowls, dishes-on-stand, pots and vessels with spouts are some of the vessel types. They painted beautiful designs and figures on the pottery. They lived in houses with thatched roofs and mud brick walls. They also made beads of various materials such as steatite and carnelian, and terracotta figurines of animals and females. The Chalcolithic culture did not have similar characteristics all over India. There were regional variations in the pottery used and the crops cultivated and animals hunted.

The sites of Chalcolithic cultures are found in Maharashtra, Madhya Pradesh, Rajasthan and West Bengal. The Harappan culture shows a higher level of advancement than the other Chalcolithic cultures of India. The Bronze Age Harappan culture is earlier than many of the Chalcolithic cultures of India. Maharashtra has produced plenty of evidence for Chalcolithic cultures. The excavated sites are Jorwe, Nevasa, Daimabad, Savalda, Chandoli and Inamgaon. Chalcolithic sites are also found at Pandu Rajar Dhibi and Mahishdal in West Bengal.

Kayatha Culture

The earliest evidence for settled life comes from Kayatha in Ujjain District of Madhya Pradesh. The site is on

Kali Sindh River, a tributary of the Chambal River and has three cultural periods and it is dated to 2400-2000 BCE. Fine ware pottery with brown slip, dark slipped ware, red painted buff ware and combed ware are found in this culture. The Chalcolithic pottery has paintings executed in red or violet pigments. These people had the knowledge of copper, and copper axes were made in moulds. Axes, chisels, bangles made of copper were found. Semiprecious stone beads and steatite beads were also found. This culture is also reported from the site of Eran.

Ahar Culture

Ahar in Rajasthan is an important excavated Chalcolithic site in India. The evidence found at this site is grouped into Ahar culture, which is dated to ca. 2600 to 1500 cal bc (R.P. Singh 2008: 314). The people of this period lived in mud brick houses and used copper implements. Since copper is locally available in this area, a lot of copper objects are found at this site. Another excavated site in this area is Gilund.

Ahar or Banas culture flourished in the Banas valley in Rajasthan. This culture is reported to have migrated to Malwa region (Madhya Pradesh) through the Sambal Valley. It has white painted black-and-red ware pottery. Interestingly this ceramic variety is found in Tamil Nadu in the Late Chalcolithic and Iron Age. It is found mixed with Malwa ware at Navdatoli. The houses were rectangular on plan with stone rubble foundation. They were made of perishable materials. Copper artefacts were found at these sites. Shell bead necklaces and terracotta beads and bull figurines were also found at the sites. This culture is dated from ca, 2600 to 1900 BCE. Ahar and Gilund are the important sites of this

culture. Clay spindle whorls, which suggest cloth weaving, and grinding stones and rubber stones, have also been found. The short bicone beads of Chalcolithic culture with punctured designs have similarities with those from West Asia.

Malwa Culture

East of Kathiawar and Aravalli hills lies the Malwa plateau (Madhya Pradesh). Navtadoli, Maheshwar, Eran and Nagda are the sites of this culture. The pottery has black painting on red surface. Evidence of fortification is also found at Navtadoli. The houses were rectangular or circular on plan. The Malwa Culture is found in Madhya Pradesh, and is dated to ca. 1700-1500 BCE (R.P. Singh 2008: 314). The excavated sites of this culture are Eran, Nagda and Navadatoli. The sites of Malwa culture have a characteristic, beautiful painted pottery.

Jorwe Culture

Jorwe culture is named after the type-site of Jorwe. It is characterized by a pottery with light to dark red wash, with paintings in black pigment. The painting designs include animal motifs and geometric designs. Jorwe culture has been divided into Early Jorwe and Late Jorwe. The Early Jorwe is dated to ca. 1400-1000 BCE, and the Late Jorwe is dated to 1000-700 BCE. Inamgaon is the famous site of this culture.

Inamgaon is one of the extensively excavated sites in India. Here people lived in square and round houses. Several burials of infants are found at the site. A house with 5 rooms found at this site is identified as the house of the local chief. The Chalcolithic sites in Maharashtra have produced evidence for cloth weaving.

Copper Hoard Culture or OCP Culture

The Copper Hoard Culture is characterized by Ochre Coloured Pottery. It is found below the Painted Grey Ware

levels at Hastinapura, Ahichchattra, and Atranjikhera. It is mostly found in the Ganga Valley, ca. 2000-1200 BCE. Copper hoards are a category of artefacts assigned to the Chalcolithic period. Such hoards occur in many parts of North India, mainly in the Ganga-Yamuna doab. The hoards contain anthropomorphic figures, antenna swords, harpoons and axes. At a few sites in Uttar Pradesh these objects are found along with Ochre Coloured Pottery (OCP). Hence the OCP culture is also known as Copper Hoard Culture.

3.3. Microlithic Hunter-gatherers

One of the important later prehistoric 'subalterns' is the microlithic using hunter-gatherers. Evidence for this group of people is found all over India. Bahor in Rajasthan has the groups that were connected with the Harappans (Stiles 1993; Misra 2001). These groups of communities continued to live in certain pockets of India (Selvakumar 1996a, 2002) as hunter gatherers, even as several other communities began to cultivate plants and domesticate animals. Some of these communities served as warriors and as labourers to the dominant groups in the later historical period. Indian literature often talks about groups that led traditional hunting-gathering way of life as monsters and as *milechchas*. One wonders if this usage derived from the word meluhha employed to denote the Indus cultures by the West Asians. Perhaps for reasons unknown, these communities did not want to change their way of life. Even now, several rural communities in India would like to lead the life way in a traditional manner. These groups of people perhaps form most of the tribal belts of India.

Bahor

Bahor is a Microlithic site in Rajasthan and this site was excavated by V.N. Misra (1973, 2001). This site has produced evidence for microliths and interestingly copper arrowheads have been found at this site, suggesting the contacts that the site had with the Harappan and other contemporary cultures.

Eastern Ghats

In the Eastern Ghats area of Andhra Pradesh evidence for microlithic using people along with iron objects have been found, and these sites have been researched by M.L.K. Murty (1989).

3.4. Iron Age Culture of South India

The Iron Age is an important cultural period in Indian history. Generally, it preceded or the beginning of history. People began to make iron implements. The association between iron and black and red ware is not certain. Actually the introduction of black and red ware in South India might have taken place earlier than Iron, in the Late Chalcolithic. This period cannot be simply labelled as the age that witnessed the introduction of iron alone, as lot of other developments also took place. The level of social complexities increased. Agricultural activities became more intense in certain areas. The number of settlements also increased, when compared to the Chalcolithic period. This indicates an increase in population density. Does it suggest any migration? The process of and the foundations for the second Indian urbanization began in this period; the Harappan civilization being the first in India.

The Iron Age is equated with the Vedic Age in North India. In North India, a pottery called Painted Grey Ware (PGW) was used in this period. The Painted Grey Ware sites are found at Hastinapura, Ahichchatra and several other sites. This cultural phase is found above the levels with OCP in the Ganga-Yamuna doab.

In the southern part of India, the Iron Age witnessed the appearance of funerary monuments and burials called 'megaliths'. These monuments were made in memory of the dead. The term 'Megalithic' refers to monuments and burials made of large stones ('mega' means 'large'). Large monuments of various types were erected during this period. The important monuments and burial types are urns, sarcophagi, dolmens, stone circles, anthropomorphs and menhirs. Along with the remains of the dead, a large quantity of iron objects like swords, spears and knives, pottery and even gold ornaments were also buried. The Megalithic (Iron Age) phase is generally dated to 1000 BCE - 300 BCE. The black and red ware, etched carnelian beads and iron objects are found along with the Megaliths.

Some of the Megalithic sites in South India belong to the Early Historic period. Determination of the internal chronology of the megalithic burials is a very difficult issue. The megalithic people were involved in agriculture and animal rearing, depending upon the local conditions. There are a number of Iron Age sites in South India that played an important role in the connections with Tamil Nadu.

Brahmagiri and Banahalli in Karnataka, Nagarjunakonda in Andhra Pradesh, Sanur, Kodumanal and Adichanallur in Tamil Nadu, Porkalam, Cheramankadu and Mangadu in Kerala, and Junapani and Mahurjhari in

Maharashtra are some of the megalithic sites in India. The megalithic sites of Maharashtra and Northern Karnataka are earlier than those of Tamil Nadu and Kerala. Hallur is an important Iron Age site of Karnataka located on the bank of river Tungabhadra in Havery district. The site was excavated by Nagaraja Rao in 1962 and 1965 (Nagaraja Rao 1971). The site has Neolithic and Iron Age cultural periods, and has produced remains of horse remains (Alur 1971), and also an early C-14 date for the beginning of the Iron Age. An important group of Late Prehistoric (Iron Age) sites around Kadebakele in the Tungabhadra valley of Northern Karnataka is explored and excavated systematically by a team consisting of Carla Sinopoli and Kathleen Morrison (Sinopoli *et al.* 2008).

Towards a Holistic Perspective of Iron Age-Early Historic Peninsular India

Did each and every community that lived in the Iron Age-Early Historic South India practise megalithism? It is certain that during the Iron Age and later periods, the isolated hilly regions (the Eastern Ghats and the Western Ghats) of South India had communities categorised by archaeologists as microlith-using 'hunter-gatherers' or as the Mesolithic survivals, while the plains had agro-pastoral or pastoral or agricultural groups (Murty 1989; Stiles 1993; Selvakumar 1996a, 1996b, 2000, 2002), which seem to have practised megalithism on a large scale. The argument here is that there could be certain 'non-megalithic' hunter-gatherers or other groups living along with the 'megalithic' agro-pastoral communities. Therefore, the study on the 'Iron Age' in a holistic sense should not confine to the burial-building

'megalithic' agro-pastoral people, but also include the other contemporary groups that probably did not have the 'megalithic' tradition. It is certain that the 'megalithic'-building people did not belong to one homogenous group, when viewed from various perspectives such as linguistic and regional. Similarly, there could have been 'megalithic' building hunter-gatherers. Hence 'megalithism' needs to be viewed as a burial tradition adopted in different chronological (e.g. Iron Age and Early Historic) and cultural contexts. Therefore, the term Iron Age-Early Historic is more acceptable than 'megalithic' to describe the overall developments in the peninsular India from 1000 BCE to 500 A.D, because of the possible presence of 'non-megalithic' communities. The term 'Iron Age' does not mean that each and every community of this age used iron implements. There were people using lithic implements, which were easy to make and were perhaps suitable for certain tasks. This situation is similar to the case of the Bedars of North Karnataka who still use chert and floss for making fire, though matchbox is available. Similarly, not every one knows how to operate a computer, even though the contemporary period is known as the age of Information Technology. In this sense, even the term 'megalithic' is justifiable as long as one is conscious of the fact that there were groups in South India that were not 'megalithic.'

The use of the term 'megalith' is not considered appropriate by some scholars, since many of the burials are not really 'mega' 'liths', i.e. all the burials are not made of large stones and a few scholars have used the term 'Paandoo Kuzhis' (Babington 1823) and 'Paandu Kals' (Leshnik 1974). However, as long as we understand that the underlying idea is the treatment of the dead in a particular manner it is fine to

use the term. As Ferdinand de Sassure (1959) points out, the relationships between the 'signifier' and 'signified' are arbitrary. Hence, it does not matter what term is used, as long as the meaning is understood.

An important aspect not discussed much in India is that trade and exchange systems of the Iron Age. Often the Indian Ocean trade studies are mainly confined to the Roman period. It appears that the internal trade routes and the emergence of settlements took place in the Iron Age itself. There is every reason to believe that the Iron Age people explored the coasts of South India, and beyond.

There could have been several waves of migrations of people into the Tamil region from the north via land and also by coast. The knowledge of chank (Turbinella pyrum) shells in the Mannar bay and other materials, especially the spices (pepper) on the Western Ghats might have reached various other parts of India. This would have encouraged the trade and exchange activities. Sri Lanka was also colonized during this time, perhaps to take advantage of the trade networks. However, archaeological evidence for Iron Age trade is very limited. This is an area that needs intense research.

3.5. Post-Harappan Cultures of India and the Origin of Dravidians/ Tamils

A number of theories have been floated for the origin of the Tamils. Ever since the discovery of the Harappan culture, it has been proposed that the Dravidians had occupied the northwestern region of India, and they were responsible for the Harappan or Indus Valley civilization. This theory argues that the migrating Aryans displaced the Dravidians from the Indus region to South India. It is supported by one group of researchers; however there are others who dispute

this theory. Based on DNA studies, Kanthimathi *et al.* (2008) argue that the Dravidians were perhaps widespread all over India and they may have migrated to South India subsequently, due to the invasion of Indo-Aryan speakers (Basu *et al.* 2003; Kanthimathi *et al.* 2008).

Another theory that links the Lemuria continent, discussed in the previous chapter, argues that Tamils originated in this land itself. There is not much ground to support this theory.

The beginning of the Dravidian language family variations must have happened in the Late-Chalcolithic-Early Iron Age itself. It can be argued that the all the South Indian languages began to attain their linguistic variations and diversity in this period itself (Fuller 2007). Although the megalithic burial tradition is seen as unitary entity, definitely there are reasons to believe that the megalithic population had internal diversity across South India, although they expressed their cultural similarities in terms of burial practices and the use of black and red ware pottery, they had distinct identities. The fore it is clear that the population and linguistic variations in South India were attained in the Iron Age itself.

Archaeology has clear evidence for the appearance of the Neolithic cultures in South India. How did the Neolithic cultures appear in South India? The general age suggested for the beginning of the Neolithic in South India is around 3000 BCE. The crucial question is who were these communities? Did they evolve from the pre-existing Mesolithic communities? Fuller suggests that the Proto-Dravidian homeland was in Peninsular India itself (2007: 422) based on the linguistic roots of the words for trees and place names, and other archaeological evidence. He argues that the southern Neolithic is Dravidian (2007: 424) and adds that the

"Proto-South Dravidian might be identified with the latest phase of the Southern Neolithic and the transition to the Megalithic period in South India, in the time horizon 1500–1300 BCE, and certainly no earlier than 1800–1700 BC."

In the Late Chalcolithic-Early Iron Age numerous material cultural traits appear and there are similarities between the material cultures of Deccan and southern India. There is clear presence of black and red ware seen at majority of the Chalcolithic and Iron Age sites. What does it indicate? Does it point to the fact that black and red ware was used by one ethnic group who brought black and red ware to Southern part of India? Was there migration of several groups of black and red ware using people to southern part of India? It has to be remembered that the post-Harappan Chalcolithic sites with black and red ware and the Velirs mentioned in the Sangam Tamil texts are interlinked by Champakalakshmi 1975-76 (Thapar 1975-76; Seneviratne 1994). Does the Chalcolithic culture represent that of the migration of the Velirs?

Let us take the case of Tamil Nadu. What caused the sudden spurt in the number of the Iron Age settlements? How can we explain the presence of early evidence of black on red ware from the megalithic burials of Thandikkudy, and the Iron Age Habitation of T.Kallupatti and the burnished pottery from Terazhauntur in the Kaviri delta? There were migrations of people into South India as suggested by Champakalakshmi (1975-76) in the Late Chalcolithic period. Did these groups come from Andhra Karnataka region? Or Further beyond? Influenced by the processual archaeology one tends to think of cultural developments as local developments. But migration of at least some groups is very much a possibility, when we look at the dispersal of the black and red ware.

Several theoretical possibilities can be proposed for the emergence of Dravidians in South India and the affiliations of the Harappan people.

1) The Dravidian speakers emerged indigenously. The Mesolithic groups were Dravidians and they took Neolithic traits around 3000 BCE onwards and emerged in South India itself.
2) The second theory is that some of the Dravidian speakers were Harappans.
3) The third theory is the Chalcolithic communities of Rajasthan as well as the Harappans were Dravidian speakers of different identities, and Austro-Asiatic groups also existed in this region.
4) The fourth theory is the Chalcolithic communities of Rajasthan, who were contemporaries of the Harappans, were Dravidian speakers, while the Harappans in the core areas were not Dravidians.
5) The Mesolithic groups of South India were not Dravidians, while the migrating (?) Neolithic communities were Dravidians.

It appears that while majority of the Dravidian speakers share similarities, the differences noticed among them is due to geographic and cultural isolations. The reason for their variations could be the varying adaptation patterns in isolated regions, partly influenced by their environment. Groups with distinct cultural traits perhaps entered Tamil country in various points of time. Several streams of migrations from within South India have contributed to the various groups of Dravidians in general and the Tamils in particular.

During the Late Chalcolithic-Early Iron Age the Tamil country witnessed the rise of agro-pastoral groups and hunting-gathering groups in various ecozones. It appears that movement of some groups of people might have happened from the Deccan and beyond. More research is needed to understand the nature and source of these groups.

CHAPTER 4 EARLY HISTORIC PERIOD

The Early Historic period in Tamil country and South India is generally placed between 300 BCE and 500 CE. But there are views that this period began around 500 BCE (Rajan 2001). From this period onwards an increase in the intensity of socio-economic-cultural activities took place in the Indian subcontinent. The rise of Buddhism and Jainism, urbanization,. state formation, the rise of the Nandas and subsequently the Mauryas definitely indicate major transformations across North India. In South India, the Iron Age-Megalithic communities began to transform. Buddhism and Jainism appeared, and increased commercial activities took place. Perhaps there were movements of people from various parts of India for trade, pilgrimage and for other reasons.

During this period more number of settlements appeared in this region. The early Historic period witnessed number of changes in the Tamil country; some of the major changes are listed in Table 3. The Sangam Tamil literature of this period offers valuable information to understand the cultures of this period (Kanakasabhai Pillai 1966; Singaravelu 1966; Zvelebil 1974; Hart 1979; Ramanujan 1996.). A lot of Roman coins came to India through the trade (Turner 1989).

Table 3. Major Developments in the Early Historic Period

1. Development of Script and literacy
2. Active Overseas Trade and movement of Tamils and arrivals non-Tamil Speakers
3. Introduction of Coinage
4. Development of Sangam Tamil literature
5. Polities of the Cheras, Cholas and the Pandyas
6. Emergence of Urban centres
7. Arrival of Buddhism and Jainism
8. New Material Culture (Bricks, roof-tiles, ring-wells, new ceramics and other material remains)

The trade and exchange patterns that took place in this period in the Indian Ocean region paved the way for the overseas commercial connections and perhaps encouraged the adventurous Tamils to move across the Indian Ocean and similarly attracted people from other regions to settle in Tamil Country (Begley and de Puma 1991; Romanis and Tchernia 1997; Ray 2003).

These processes led to the development of towns and cities across the coastal regions. Many of these coastal settlements such as Arikamedu, Alagankulam (Azhakankulam), Kaverippoompattinam (Nagaswamy 1991) and Korkai in Tamil Nadu and Pattanam in Kerala have been excavated. In this chapter evidence for the Early Historic connections of the Tamil Nadu found outside Tamil Nadu is discussed.

Table 4. The external factors that boosted the Early Historic Tamil Country

1. The Economic Developments in the Roman Empire
2. Developments in Northern India
3. Emergence of Overseas trade and exchange network

4.1. Early Historic Connections of the Tamils in the Eastern Indian Ocean Region

The studies on the Early Historic period have generally focused on the western connections and the Roman trade. The eastern sea connections have not been given sufficient importance. Unfortunately, the identifiable material remains of Southeast Asian are very limited. But scholars are of the opinion that goods from South East Asia came to this region, since the coastal silk route existed across the India Ocean region existed. The knowledge and use of monsoon winds also boosted the pace of commercial activities in this region.

There are two major domains within the Indian Ocean, a) the Western Indian Ocean Domain comprising the west coast of India, and b) the Eastern Indian Ocean Domain comprising the rims of the Bay of Bengal region comprising, Sri Lanka, east coast of India, Bangladesh, Burma, Thailand, Indonesia and Vietnam. The Eastern Indian Ocean connections that the Tamil country had are described first. The evidence is discussed from the island of Sri Lanka and to the east from the Bay of Bengal. The Early Historic trade routes extended from Egypt in the west to China in the east (Fig. 6), linking innumerable ports-cum-manufacturing centres across the rim of the Indian Ocean, and the fine Indian rouletted ware pottery sherds are distributed at many of the sites in this network.

Sri Lanka

Sri Lanka is one of the strategic regions in the Indian Ocean region that is closely associated with Tamil country from the prehistoric times. The megalithic burials similar to South India with black-and-red ware and graffiti are found in Sri Lanka. They definitely indicate cultural relationships between these two regions. South Indian black and red pottery occurs at Gedige in Anuradhapuram, Pomparippu, Kantarodai and Ibbankatuwa (Bopearachchi 2004: 62). Rajan and Bopearachchi (2002) have compared the pottery from Ridiyagama and Kelaniya in Sri Lanka with that of Kodumanal. From the Early Historic times abundant references and material evidence are available for the contacts. The Singhalese chronicle *Mahavamsa* has references to the Tamil region and Tamils. The major sites of Sri Lanka that have evidence for contacts with Tamil region and India are Anuradhapuram, Tissmaharama and Mantai. The history of Sri Lanka is highly politicized due to the ethnic conflicts induced by colonialism and the development of nation states in the post-18th century period. The period that we deal with had different political milieu and there existed connections between the Pandya kingdom of Madurai and the Sri Lankan kingdom. Sena and Kuttaka are considered to have conquered Sri Lanka.

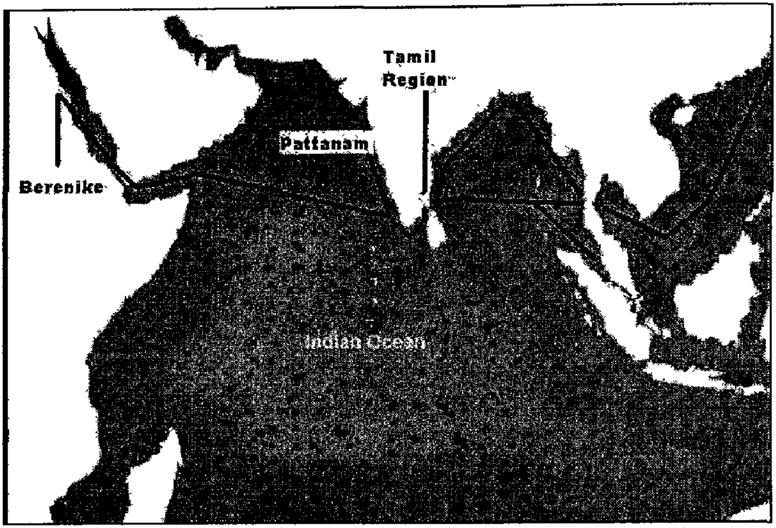


Fig. 6. Early Historic Trade routes that linked the Tamil Region

Jaffna

Ponnambalam Ragupathy has listed several archaeological sites in the Jaffna Peninsular (Ragupathy 1987). There is a strong ground to argue for Tamil presence in Jaffna region of Sri Lanka in the Early Historic period as well. The Jaffna Island is not far from Azhakankulam (Alagankulam) and Vedaranyam, and hence one could expect the movement of people across these regions. At Kantarodai a coin of the Sangam Cheras has been reported (Pushparatnam 1993: 30-42; 2002). Coins datable to pre-6th century CE have been found at Pallikuda, Mannitalai, Virapandyan Munai and Kantarodai (Sitrambalam 2004). Exploration undertaken by Pushparatnam around Poonagari region has produced several pottery sherds with Tamil-Brahmi inscriptions (Pushparatnam

1990). The metal seal found at Anaikottai, Jaffna in Sri Lanka by Indrapala reads *ko ve ta* (Raghupathy 1987; Bopearachchi 1999). This find does prove the Early Historic Tamil connections of this region. This inscription is read as Koveta and Mathivanan reads it as *tee vu Ko*. This is an important find that suggests that Tamil presence was there in the Jaffna area from the Early Historic period. S.K. Sitrambalam has observes the similarities between the burials of Anaikkottai, Karainagar, Mantai, Pomparippu and Mahewita and those in the districts of Madurai, Ramanathapuram and Thirunelveli in Tamil Nadu (Sitrambalam 2003).

Mantai

Mantai is an archaeological site excavated by John Carswell in the 1980s (Carswell and Prickett 1984: 3-80). The report of the excavation is not yet published. This site has produced rouletted ware (Ford *et al.* 2005) and it was also the centre of Indo-Pacific bead manufacturing. This site must have been well connected with Azhakankulam and Korkai. This was an important settlement connected with Tamil region.

Anuradhapuram

Anuradhapuram is one of the important urban centres of Sri Lanka, and this site has been extensively excavated and researched (Deraniyagala 1972, 1992: 712–3; Conningham 2001). It is unfortunate that not even one site of Sangam Age has been excavated to such an extent in Tamil Nadu, except perhaps Arikamedu. Anuradhapuram is a world heritage site. It is located 205 km northeast of Colombo. It is claimed that King Pandu Khabaya established Anuradhapuram in 4th century BCE. Pandyan coins have been found in

Anuradhapura. There are references to Tamils in the Sri Lankan Brahmi inscriptions (Pathamanathan 2006). The names such as *Parumaka* and *Paratava* found in the Sri Lankan inscriptions suggest that Tamil people were active in the Jaffna region, while traders might have visited the interior region. In addition, some of the Tamils of that time were also Buddhists. There are Sinhalese-Brahmi inscriptions on pottery at the sites of Azhakankulam, Arikamedu and Kanchipuram in Tamil Nadu. People went to these towns from Tamil country and interacted and exchanged. The rouletted ware also shows definite connections between the sites and Tamil Country and Sri Lanka. Anuradhapuram is considered to have produced evidence of Brahmi pre-dating the reign of Asoka, around 400 BC (Coningham, Allchin, Batt and Lucy, 1996).

Southern Sri Lanka

Several coins of Tamil dynasties have been found in Sri Lanka (Bopearachchi 1993: 83-4). A coin with the name 'Uttiran' has been identified from Southern Sri Lanka (Mahadevan 2000; Bopearachchi 2004).

Tissamaharama

Tissamaharama is in southern part of Sri Lanka and it was known as Mahagama. It was the capital of the Singhalese kingdom of Ruahana, and has Buddhist chaityas and stupas. It was a site connected with the traders of the early period. Several fragments of rouletted ware have been found at this site. Rouletted ware sherds have been used to make discs at Tissamaharama (Weisshäar and Wijeyapala 1993; Schenk 2000).

Glass Bead Connection

Based on Neutron Activation Analysis it was considered that the glass beads found at Ridiyagama, Kelaniya and Giribawa in Sri Lanka and Azhagankulam and Arikamedu in Tamil Nadu belonged to the same group (Bopearachchi 2004: 62). However, recent studies by Bernard Gratuze and Laure Dussubieux of the Centre Ernest Babelon (CNRS Orleans) indicate they could be from different sources (Dussubieuxa *et al.* 2010)

Andhra Pradesh

The coastal region of Andhra Pradesh has several important settlements of the Early Historic period. Buddhism was very vibrant in this region (Krishna Sastry 1983). In the Early Historic period, the Satavahanas issued coins with Tamil script, which indicates that the Satavahanas controlled some parts of northern Tamil country. Since coastal Andhra Pradesh was a major centre of Buddhism, Buddhists from this region might have visited to the Coramandal Coast of Tamil Nadu. The rouletted ware from Andhra Pradesh is an important clue for the contacts across the Early Historic Bay of Bengal region. The Buddha *Paada* made of limestone, which is sourced in Andhra, reported from Kaveripoompattinam clearly attests to the contacts between Tamil Region and Andhra Pradesh. Veerapuram, Satanikotta and Amaravati are some of the important Early Historic Sites of this region (Sastry *et al.*1983; Soundararajan 1994). Unfortunately, no Tamil-Brahmi inscription or any other clearly identifiable artefacts associated with Andhra Region so far. But certain features of ceramics such as Arikamedu Wheeler *et al.*1946 ceramic Types 74 and 75 are found in northern Tamil Nadu as well as in southern Andhra Pradesh.

They reveal the cultural connections between these two regions.

Orissa

Orissa, the ancient Kalinga region, was very well involved in the coastal trade (Behera 1977; Tripathi 2002). Sisupalgarh is a major excavated site of this region (Smith 2003; Mohanty and Smith 2006; Smith and Mohanty 2007). Apart from this, Manikpattana, Palura have yielded Early Historic materials such as ceramics, glass and carnelian beads. *Kalingam* is a kind of cloth referred to in the Sangam texts. Perhaps this kind of cloth came from Orissa region. Apart from the rouletted ware from the excavations at Sisupalgarh, that connects the region with Bay of Bengal trade network, no evidence for specific contacts with Tamil region has been found. Kalinga is also referred to in the Medieval Southeast Asian inscriptions, as Kling.

Bengal Region (West Bengal and Bangladesh)

Bengal region, situated in the Ganga-Brahmaputra delta, was a major centre for trade in the Early Historic period. It served as an outlet and region of contacts for the entire Ganga delta. The coastal region witnessed the development of settlements from the Chalcolithic period onwards, and as a result the coastal contacts along the east coast must have also developed in the Chalcolithic period itself. The rouletted ware, which was thought to have been produced around Arikamedu earlier, is now considered to have been produced in the Ganga-Brahmaputra delta of the Bengal region based on XRD analysis (Gogte 1997, 2001, 2002). Therefore, the Bengal region definitely had intense contacts with Tamil region.

Chandraketugarh

Chandraketugarh was a major settlement on the coast of Bengal. It is located 35 km northeast of Kolkata in the North 24 Parganas district. This site is famous for terracotta objects (Chakraborty 2000; Haque 2001; De and De 2004) interestingly the architectural remains of Kaveripoompattinam brick vihara have some similarities with the brick structures of this site.

Tamluk

Tamluk was excavated by the Archaeology Department of University of Kolkata. The site is located on the bank of Rupnarayan River close to the Bay of Bengal. The details of excavations have not been published so far. It has produced a rich variety of fine pottery similar to those found at Arikamedu. There is every reason to believe that traders from this region visited Tamil Country and simultaneously the traders who were going to Southeast Asia might have crossed this town, before the discovery of direct coastal route. It is not clear when exactly direct sailing from Tamil Nadu to Southeast Asia took place. It was one of the important ports on the Bay of Bengal region and unfortunately the report of the excavation has not been published.

Wari Bateshwar

Wari Bateshwar is an important early Historic settlement in Bangladesh (Chakrabarti 1992; Haque 2001). This site has produced punch marked coins, rouletted ware, knobbed ware, Northern Black Polished ware and semi-precious stone beads. Perhaps this settlement was connected with Tamil region, as it lies in the Bay of Bengal domain.

South East Asia

The trade with Southeast Asia was very active in the Early Historic period. Peter Francis argues that Arikamedu beads went as far as Bali, Java, Vietnam and Thailand (2004: 513). Similarly fine rouletted ware of Indian origin has been found at many sites of this region. Evidence is available for the contacts between Southeast Asia and India in ceramic and boat-building traditions, especially the carved paddle impressed pottery shows a lot of similarity (Selvakumar 2004, 2008c, 2010). The ceramic form of bottle-necked sprinkler (*kundika*) found in Indian sites seems to have been imitated in Burma, Thailand, Java and Vietnam (Bellina and Glover (2004: 80). In the early years scholars analysed about the process known as "Indianization" and now this process is critically looked at (Smith 1999). Perhaps this process was to a large extent influenced by the developments of colonialism and its long lasting impact on the Indian psyche.

Nothing much is known about the Early Historic connections of Burma in terms of material remains, e.g. ceramics. But Thailand region has produced a lot evidence for Early Historic contacts with India.

Thailand

Thailand is strategically located in South East Asia. From South Asia, the shortest route to China is crossing the Peninsular Thailand and then proceeding to South China Sea Thailand seems to have been a major transit region for the merchants from India, as Tamil country (especially, Muciri or Pattanam region of Kerala) served for the merchants from western region (Roman Empire).

Phu Khao Thong

Phu Khao Thong was an ancient port town-cum-manufacturing centre on the Andaman Sea coast in Ranong province of Thailand. This site was excavated in 2006 by National de la Recherche Scientifique, France, and Praon Silpanth of Silpakorn University, Thailand. Precious artefacts such as carnelian intaglios, Roman mosaic glass containers and gold beads, different kinds of ceramics including rouletted ware sherds, and potteries inscribed with Tamil-Brahmi script were recovered from the excavations. An important find from this site was a lion pendant similar to those found in Taxila, Pakistan. In addition auspicious symbols such as conch shell, srivatsa, svastika, and most importantly, Triratna were found. Interestingly the conch shell could be from the region of Mannar Bay in the south eastern coast of Tamil Nadu. The potsherd with inscription has been identified as …tu Ra vO... by Iravatham Mahadevan (Tamil-Brahmi inscription on pottery found in Thailand, *The Hindu*, Chennai, Sunday, Jul 16, 2006). It is an incomplete inscription.

From another shred reported with some graffiti, Iravatham Mahadevan has found similarities with Indus symbols (Indus-like inscription on South Indian pottery from Thailand, The Hindu. Thursday, April 08, 2010, Chennai Edition). This particular pottery is very similar to the fabric of Arikamedu Vimala Begley *et al.*1996, fine grey ware 3. Considering the fact that a gold smith's touchstone has been found at Khlong Thom in Thailand, there is every reason to believe that Tamil traders/craftsmen visited this port.

Khao Sam Kaeo

Khao Sam Kaeo is located in Upper Thai-Malay peninsula in Chumphon province (Bellina and Silapanth 2006; Bellina 2009). This site dates from the 4th century BCE to 5th century CE. This site connected South Asia in the west and Taiwan in the east. Evidence for Indianization is found at this site and it is considered to have functioned as a cosmopolitan centre like Kaveripoompattinam, integrating various communities (Bellina 2009). This site witnessed production of etched carnelian beads and stone ornaments (O'Reilly 2007: 85-86). About 200 rouletted ware sherds and more than 150 potsherds comparable to Northern Black Polished ware have been found at this site. Merchants of Indian origin could be the reason for the presence of such material cultural remains in this region (Phaedra 2008).

Khlong Thom

• Khlong Thom was an important port-cum-manufacturing centre and it was famous for bead and ornament production. Khuan Lukpad is the name of a mound and this name means bead hill in vernacular. It is part of Khlong Thom (Francis 2002). A small piece of stone found at this site is exhibited at the temple museum of Wat Khlong Thom, Krabi, on the west coast of peninsular Thailand, about 120 km south of Takua Pa (Shanmugam 1996). This stone, green in colour and measuring 3.7 cm x 7.5 cm x 3 cm was first noticed by a team of researchers in 1992 (Karashima 2002). The stone identified as touch stone and has an inscription in later Tamil-Brahmi script reading "Perumpatan Kal" and it is interpreted as the touchstone of Perumpattan, which appears to be the name of a chief goldsmith. On palaeographical grounds the inscription is dated to 3rd or 4th century CE. The mound where the stone was found is called

bead mound, according to Karashima. Perhaps the touchstone was the personal possession of the gold smith. The Wat Khlong Thom inscription obviously confirms the presence of a goldsmith from Tamil region. Southeast Asia was known as Suvarnabhumi or land of gold, and Southeast Asia yielded a lot of gold from river born alluvial gold, forest resins and spices. John Guy says that evidence of gold working in Sumatra and the Malay Peninsula attest to the involvement of Tamils in the gold working in this region (Guy 2004 : 156). There are references to gold traders (*Pon Vanikan*) mentioned in the Sangam Tamil texts. Perhaps the craftsmen were in demand in this region and hence the goldsmith might have migrated for better prospects. Generally, one finds a decline of the trade with the Rome in the Late Roman period, say after 2nd century CE. Perhaps the Tamil/Indian merchants might have looked for greener pastures in the eastern side.

Bujang Valley, Malaysia

The Lemba Bujang Valley in Malaysia has revealed Buddhist evidence in the form of two steles (Guy 158; Rahman and Yatim 1990). In the same valley, several Hindu and Buddhist temples have been restored and it is considered an important center for Indian merchants in the first millennium CE. So far no direct archaeological evidence for Tamil connection is reported here, and it can only be assumed on the basis of evidence for Indian presence.

Indonesian Archipelago

Although no direct evidence for Tamil presence is found in Indonesia during the Early Historic period one could presume that Tamil merchants visited this region. The presence of rouletted ware definitely points to Indian connection. However, the rouletted ware need not imply the

presence of Indian merchants; rather it might have come as a traded commodity.

Buni Cultural Complex, Indonesia

Buni Cultural Complex refers to a group of sites near Karawang in northwest of Java, which is part of Indonesia (Walker and Santoso 1977; Bronson and Glover 1984). The most important find from the site was a complete dish of rouletted ware. In addition, Indo-Pacific beads similar to those found at Arikamedu in physical properties and types have also been found at this site, and Peter Francis (2004: 502) argues that they were imported from Arikamedu. This is the primary link for the Indian Ocean trade. He adds that the beads from the burial site of Gilimanuk were also imported from Arikamedu. Bellina and Glover (2004: 78) report the presence of a sherd resembling the russet coated and painted ware in the Buni Complex.

Sembiran, Bali, Indonesia

Sembiran lies 30 km east of Singaraja on the northeastern coast of Bali. Around one hundred sherds of rouletted ware group, which perhaps include the body sherds of Arikamedu Wheeler *et al.*1946, Types 1, 2, 10, 18 and 141, and one shred of Type 10 and Brahmi and Kharoshti inscribed pottery have been found at this site (Ardika 1995; Ardika and Bellwood 1991). Some of the beads found at this site are considered to have been manufactured at Arikamedu (Francis 2004).

Vietnam

Vietnam lies on the Pacific Ocean corridor close to South China Sea, beyond Thailand and Indonesia. So far no known archaeological materials of Tamil origin of Early

Historic period have come from China region. Tra Kieu is a site in Central Vietnam. A fragment of rouletted ware has been found at the site. This suggests that the Indian goods were transported to this region.

Comments

The references found in the Sangam texts as well as the archaeological evidence in the form of rouletted ware suggest that Tamil merchants visited Southeast Asia in the Early Historic period. The only concrete evidence for Tamil presence is the stone with a craftsman's name in Tamil-Brahmi. It is reported that the ships of Southeast Asia sailed up to India, perhaps many of these ships went up to Pattanam or the ports of east coast. The Tamils had more participation in the trade activities of the eastern Indian Ocean domain. Similarly merchants from other regions also visited and settled in this region (Subbarayalu 2009). The presence of about 50 % Prakrit inscriptions among the Brahmi also suggest that the commercial interest of North Indian traders in Tamil country. The trade and exchange networks need to be seen from the perspective of early social set-up, and not from the perspective of modern boundaries of the nation states.

4.2. Early Historic Settlements on the Western Indian Ocean Region

The western Indian Ocean domain covers the area to the west from the southern tip of Kerala. This forms a different domain, with different ecological set up and distinct resources.

The Overseas Trade routes and the Ports of the Red Sea

One of the important westerly trade routes that connected India and the Roman Empire went from Muziris (Muciri) via the Red Sea coast (Sidebotham 2006). The ships that sailed from Muciri went directly to Berenice or Quseir al Qadhim on the Red Sea Coast crossing the Arabian Sea. From these ports caravans took goods across the Eastern desert of Egypt to Coptos on the Nile River. These routes on the eastern desert have been explored and several important archaeological remains have been discovered in the eastern desert area (Sidebotham and Zitterkopf 1995). From Coptos, the commodities were shipped on the Nile boats to Alexandria, and then they were distributed to the different parts of the Roman Empire. Strabo mentions that about 120 ships sailed each year from these ports around 21 A.D. and this suggests the popularity of this trade route.

Kerala

Many ports/marts developed on the coasts of India in the Early Historic period, perhaps induced by the trade dynamics in the Indian Ocean rim (Champakalakshmi 1996; Gurukkal and Whittaker 2001). Both Tamil and Greco-Roman sources mention about the names, location and nature of the ports. But on the ground their identification is not yet complete, and this offers an important research problem by itself. A brief account of the ports of Kerala is presented below, based on the previous studies and author's understanding and interpretation of the sources.

Vilinjam/Balita/Blinca

The Peutingerian Table (which is actually a map) has a place marked as 'Blinca,' which phonetically resembles the modern name '*Vizhinjam,*' where the labio-dental 'V' was replaced with labial 'B'. Balita is the name of a port

mentioned in *The Periplus Marei Erythrea* and this is identified with Vizhinjam by Sivaraja Pillai (1984, see also Sadasivan 2003.). Ajit Kumar (2006a, 2006b) has found archaeological evidence of historical period at Vilinjam in 2004-05; but no significant Early Historic artifacts seem to have come up so far; but the presence of early medieval remains seems certain. The rock formations adjacent to the sea at Vizhinjam indicate the well-shelved nature of the area and its suitability as a good mooring point on the maritime route. This area does have scope for Early Historic material remains; but detailed explorations and excavations are necessary.

Becare and Nelkynda

The ports of Becare and Nelkynda are mentioned in *The Periplus* together and they seem to have been under the control of the Pandyan kings. Nelkynda is reported to have located 500 Roman stadia (about 86 km) south of Muciri. Becare, which was a costal port, is often identified with Purakkad near Alappuzha (Gurukkal and Whittaker 2001). A few sporadic explorations at Purakkad have revealed only later historical remains (Post-15th Century) in this area, and the location of Becare has not been identified convincingly.

Nelkynda or Melkynda or Neacyndi of the Greco Roman writers is identified near modern Kottayam. According to the *Periplus* it was located 120 Roman Stadia from Becare, by a river. It is important to note that a hoard of punch marked coin has been reported at the site of Elikulamgara near Kottayam (Travancore Archaeological Department's Report for 1121 M.E.) and a single Roman coin has also been reported at Kottayam.

Ajit Kumar from Kerala University has come across certain ceramic sherds from Alumthuruthu-Kadapra on the

Pamba River (*The Hindu*, Kerala Edition, Friday, Jan 18, 2008) and suggests the possibility of Nelkynda's location in this area. Alex Mathew who has completed doctoral research on this region has also found pottery from Naakkida. Alex identifies Nelcynda with Naakkida (*The Hindu,* Kerala Edition, Sunday, April 27, 2008). Systematic and detailed archaeological investigations need to be undertaken in this region. It is not clear if any Early Historic material is represented at these sites.

The southeastern bank of the Vembanadu Kaayal (backwater), the hinterland and the coastal region of Central Kerala need to be explored thoroughly for the location of these twin ports/marts.

Muciri/Muziris- Pattanam

Tamil 'Muciri' and Greco-Roman '*Muziris*' was the much-celebrated port and its location is generally considered to be near Kodungallore on the northern bank of the river Periyar. It is mentioned as the port of the Cheras by the Greco-Roman and the Tamil Sources.

Graphic references are found in the Sangam texts in connection with Muciri. The *Akanaanooru* poem 149 mentions that the well-crafted vessel ('kalam' means ship) of the Yavanas (westerners) came on the river Periyar beating the white foam with gold and returned with pepper. From this statement it is clear that the westerners (Romans? or West Asians) built the ships that were used for the transport of commodities on the Arabian Sea. Elankulam Kunjan Pillai (1970) is of the view that the Yavana could also refer to the Arabs of the later period. The reference that the ships came into the Periyar in Akanaanooru 149 is interesting, while the *Periplus* mentions that ships could not enter the river Periyar. The reference 'ponnodu vantu kaRiyodu peyarum' highlights

the most important and valuable import was gold and the most valuable export commodity was pepper. In the *PuRanaanooru* poem 353 (*"Kalam tanta porparisam kazhitoniyaan karai cerkkuntu"* 353: 10), the heroine says "even if you offer the wealth of Muciri, I would marry only a Puraiyan not anyone else" and *Akanaanooru* 149 mentions "vaLam kezhu Muciri" (the rich Muciri) which reveal the prosperity of the town of Muciri. "Kalam" and 'tooni' are the two watercrafts referred to in the *PuRanaanooru* poem. The term "kazhi" refers to the backwater in Tamil and Malayalam, and "kazhittooni" probably refers to the small watercrafts/carriers that plied on the backwaters. Perhaps the dugout watercraft found at KCHR's (Kerala Council of Historical Research) Pattanam excavations in 2007 (Cherian *et al.*2007a, 2007b) can be categorized under "kazhittooni."

Significance of Pattanam

Muciri was conventionally identified with Kodungallur or Cranganore due to the evidence for Medieval capital of the Cheras there. The excavations at a few localities near Kodungallur did not reveal significant Early Historic remains (Achan1946; Induchudan 1970; Raman 1970; Chedambath 1997; Shajan 1998). But the recent investigations have placed the location of Muciri or at least a part of it at Pattanam in Ernakulam district of Kerala and suggest that the river Periyar might have shifted its course during the past 2000 years based on the contention of the geologists (Shajan *et al.*2004). The Pattanam excavations conducted in 2007 and 2008 by the Kerala Council for Historical Research have produced enormous wealth of information for the Indo-Roman trade contacts of Kerala (Cherian *et al.*2007a, 2007b). The excavations by KCHR have brought to light archaeological remains including brick

architecture, imported ceramics, a dug-out canoe and a well-built wharf *in situ* (Cherian *et al.*2007a; 2007b). The C-14 AMS age places the dugout watercraft and the context of the Wharf in the Early Historic period (Cherian *et al.*2009).

The Lacus Muziris marked close to Muciri on the *Peutingerian Table* (map) could be the confluence of the Paravoor Toodu and the backwater area (Tattappally river). The map also has a place called 'Patinae'. It is not clear what exactly does this Patinae refer. Does it refer to Pattanam? Were the two cities, 'Muciri' and 'Pattanam', entirely different settlements located a little away from each other? While Muciri served as the capital of the king, Pattanam could have served as the port area of Muciri. Did Vanji refer to Kodungallur area? The town of Muciri might have also referred to the larger area covering a major portion of the Periyar delta, including the Kodungallore region. The Iron Age occupation at Pattanam is important evidence and this has been placed in the beginning of the first millennium BCE. based on C-14 dates (Cherian *et al.*2009).

Tondy/Tyndis

Tondi is mentioned in *Akanaanooru* (290: 13) as the Chera ruler Kuttuvan's port ("munturai" is the term equivalent of Pattanam in Tamil) and another reference in *Puranaanooru* (60: 7) mentions about Poraiyan Tondi. There were probably two towns with the name Tondi in the Sangam period: one on the east coast and another on the west coast. The prefixes 'Kuttuvan' and 'Poraiyan' occurring along with the name of Tondi reflect the existence of other Tondi on the east coast. If the account of the Periplus is to be believed, the Tondi of the west coast was 500 Roman Stadia i.e., about 86 km north of Muciri. Thus this town must have been around Ponnaani near

the mouth of the Bharathappuzha or a little north. The actual location of this port has also not been identified. The area of Thirunavaya and the region around the mouth of Bharathapuzha need to be surveyed.

Pantar

'Kodumanam' and 'Pantar' appear together in *PathiRRuppattu* (60: 12). Perhaps the port of Pantar or Bandar was connected with Kodumanam, which is identified with Kodumanal in Coimbatore district of Tamil nadu (Rajan 1994). The Tamil 'Pantar' seems to have derived from the term 'Bantar' of the West Asian origin referring to port. "Pantar" appears to the Persian equivalent of 'Pattanam' in Prakrit and Pattinam in Tamil. In view of the proximity of the Palakkad Gap to the site of Kodumanal, the port might have located near or to the south of the mouth of the river Ponnaani or Bharathapuzha, close to the Palakkad Gap. It is also probable that there were different names for the same port (for different parts of the same settlement). Could it be a separate port called 'Pantar' near Tondi (Tyndis)? Did it refer to Pattanam or a place near Ponnaani? There is also a view that Kodumanam is the place Kodumon in Kerala. This is one of the main issues in identifying ancient towns on the basis of references in the texts and contemporary place names. We encounter such a problem in the identification of many towns and villages of the Sangam texts. Satyamurthy (2001) identifies the Pantar with Bandarpattinam on the east coast.

Naravu

Is it Naura? This port is identified with Honnevar in the Tulu region of Karnataka. But some scholars identify it with Naravu of the Sangam text and place it near Kannur on the bank of the Valapattanam River. Some identify it near the mouth of the river Netravit (Maloney 1970). The find of a

large hoard of gold coins from Vaniyankadavu nearby Malabar Kottayam points to the possibility of a significant port in this region. Detailed explorations are needed in this area.

West Coast of India

The Gujarat region also had intense contacts with the west coast of India. The sites of West Coast might have formed a network among themselves. Although no identifiable archaeological remains are found for these contacts, it is likely that ports of west coast of Tamil Nadu, Honnavar, Sopara and Broach of Gujarat were linked.

West Asian Region

The region of West Asia in fact must have had contacts with western parts of Tamil country from the prehistoric period. Generally, in the Early Historic studies focus was given to the Roman trade. Sometimes reactionary stands tend to glorify the contacts with West Asia and also internal trade, just to counter the bias. However, one should give equal importance to Roman empire and the processes that helped to boost the trade as well. It cannot be denied that the Roman consumerist factor served as a prime mover of the overseas trade. Arabia was also a consumer and did the role of intermediary. Thus the importance of Arabia could neither be overstated nor underestimated. The archaeological evidence from Pattanam in Kerala could be a good pointer for the early contacts with West Asia (Kennet 2010). Materials from Arabia, Hadhramawt region in the form of Torpedo jars have been identified at Pattanam by Roberta Tomber (2008). Similarly the Parthian and Sassanian materials also have been identified at Pattanam and also in Sri Lanka (Kennet 2010). This definitely indicates the movement of various merchant groups across the India Ocean region. The Mesopotamian

pottery has also been identified by Roberta Tomber from several sites in India (Tomber 2007, 2008; Shajan *et al.* 2008). The site of Petra in Jordan has produced pottery of mould made type similar to those found in Maharashtra region (Gogte 2001). There West Asia was an active partner in the Early Historic trade with Tamil country.

Iran and Iraq

Ceramics of Iran and Iraq, ancient Mesopotamia, have been found at the site of Pattanam (Tomber 2007; Kennet 2010). From the Pattanam excavations, 650 sherds of glazed table wares and over 850 sherds of torpedo jars from Iraq and western Iran region have been found. Interestingly, 3rd century BC 'fish plates' of the Parthian period have also been found at Pattanam.

Egypt

Egypt is one of the key regions for the contacts between India and the west. A few ports of Egypt have produced a lot of evidence for contacts with Tamil region.

Berenike

Berenike or Berenice on the Red Sea coast of Egypt was an important port (Tomber 2000; Wendrich *et al.*2003; Sidebotham and Wendrich 2007; Abraham 2007). The establishment of Berenike on the Red Sea coast by Ptolemy Philadelphus, named after his mother, reveals the Greek interest in the easterly trade. Berenike on the Red Sea coast of Egypt has abundant archaeological and botanical evidence and a few textual materials for contacts with India in general and Malabar Coast in particular. The find of 7.5 kg of pepper in a jar and potsherd with Tamil-Brahmi inscription, coconut shell fragments and teakwood remains are important in this

regard. The Tamil Brahmi inscription bearing the personal name "koRRapoomaan" indicates that South Indian merchants visited this port or the goods were meant for the South Indian merchants.

Quseir al Qadhim

Quseir al Qadhim, another important Red Sea port, lies a little north of Berenike and it is identified with Myos Hormos of the written rewards. This site was excavated by Whitcomb and Johnson (1980) of the Oriental Institute, Chicago in 1978 and 1982 and later by the University of Southampton from 1999 to 2003 (Tomber 1999, 2000; Peacock and Blue 2006). Two sherds of pottery with Tamil Brahmi inscriptions reading "kanan" and "caattan" and another sherd with a post-firing graffito reading "panai Ori" have been reported from this site (Mahadevan 2003). Iravatham Mahadevan interprets the last inscription as referring to a pot attached to a hanger. But actually it refers to the name of an individual, perhaps a merchant. This site has produced printed cotton cloths of the Medieval period, most probably imported from Gujarat region of India.

Regions beyond the Indian Ocean Rim

The connections between Europe and India/Tamil region extend back to the Early Historic period. Obviously the Yavanas who came to India brought goods produced in various parts of the Europe, Africa and Asia, and thus these regions are also linked to Tamil Country indirectly. It is not clear if Tamil merchants visited Rome and beyond in the Early Historic period, but goods produced in Tamil region reached this territory. Especially amphora, an important container that carried wine, garum sauce and olive oil, is found at many sites of Tamil country. The Sangam texts

vividly mention about the Pandyan king enjoying Roman wine. Therefore it is clear that the Roman/Greek wine was consumed by the Roman traders as well as the local elites.

Greece

Amphoras produced in the Greek regions such as Kos, Rhodes and Knidos have been found in the excavations at Arikamedu (Will 1996, 2004) and Pattanam (Tomber 2008). Arikamedu has preponderance of Greek amphoras. More than 70 percent of the wine jars is of Greek origin, according to Will (2004: 326-327). Will argues that the Tamils from the region of Arikamedu had preferred Greek wine, which was made of salt water, as evidenced by the amphora sherds from Arikamedu. Similarly, the commodities from Tamil country reached the Greek region. The *Periplus Maris Erythraei* has detailed reference to the ports and marts of Tamil Country. This shows the interest of the Greco-Roman traders on the ports of Tamil country and their produce.

Italy

Italian amphora, especially those produced in the Bay of Naples (Companian) is reported from a few archaeological sites in India (Wheeler *et al.*1946; Will 1996, 2004; Tomber 2008). Like the Greek wine, Italian wine was also imported. It is well known that Italian terra sigillata (Arretine) is reported at the sites of Arikamedu, Azhakankulam and Pattanam (Tomber 2008). The Roman lamps and glass bowls have also been found at Arikamedu and Pattanam.

France

Evidence for materials from European region, besides Greece and Italy, as well as Africa is found at a few sites. At Arikamedu, about 5 percent of amphoras catalogued by Will (2004) belonged to the French type.

Spain

Spanish amphora also has come to light from the ceramic collections of Arikamedu. Pattanam Excavations have produced amphora from Catalan, the region around Barcelona in Spain (Tomber, 2009). Similarly a handle fragment of Spanish amphora used for carrying fish sauce called Garum has also been found at Pattanam. This jar was manufactured in the southern coast of Spain, particularly in the region of Cadiz according to Roberta Tomber (2009).

4.3. Discussions

The Early Historic period witnessed unprecedented commercial activities across the Indian Ocean region. Perhaps there was great likeness among the elites for the commodities (prestige goods) beyond their own region. This was combined with the adventurous spirit and the booming economy and several other factors contributed to the development of overseas trade.

There were different kinds of dynamic players in the Indian Ocean region. The Tamil traders participated in this trade, which seems to have contributed to the efflorescence of the materially rich Early Historic culture. The evidence indicates the presence/linkages of Tamil merchants in/with Egypt. The evidence from Thailand suggests the movement of Tamil craftsmen in this region. The Early Historic period can be considered a period where people look for distant lands

and the commercial activities in general. There are frequent references in the Sangam poems about the hero who moved far ways from his native place for earning wealth. Perhaps this craze for wealth among people, who left their ladylove alone, forced the poets to frame their sufferings in the poems. This evidence points to the changes in ideology brought about by the Indian Ocean trade.

Earlier the rouletted ware was thought to be of non-Indian in origin, but Vimala Begley argued that it must have been manufactured in India (Begley 1988). Gogte (1997, 2002), based on X-Ray Diffraction (XRD) analysis of pottery and ceramic clay, proposed that this group of ceramic was manufactured in the Ganga-Brahmaputra delta. The author's observation of the ceramics from Arikamedu and Chandraketugarh also suggests such a possibility (Selvakumar 2008c). While some researchers accept the findings of Gogte, there are contrary viewpoints (Bellina and Glover 2004; see Begley 2004 for a critique). On the basis of XRD-analysis and evidence such as identically-sized bricks and other artifacts, Gogte is of the view that the traders from Bengal had set up ports on the Tamil Coast and had political control in the Early Historic period (ca. 500 BCE - 300 CE). This interpretation appears over stretched, although these towns had the activities of various foreign merchants. These ports might have evolved in the Iron Age itself as points of coastal exchanges. More research is needed on the origin of the rouletted ware and the dynamic factors that led to its spread (Morrison 1997: 95).

The presence of more than 50 percent of Tamil-Brahmi inscriptions on pottery in Tamil language from the Early Historic trade centres, suggests the active participation of Tamil merchants in the Early Historic trade (Mahadevan

2003; Subbarayalu 2009). However, these settlements might have been cosmopolitan in nature with merchants from various other parts of the Indian Ocean region visiting for commercial and religious perspectives. The portrayal of the Kaveripoompattinam in *Pattinappalai* as a conglomeration of various craftsmen and traders beautifully characterize the port towns of the Indian Ocean region in the Early Historic period. Over all people from Tamil regions visited very many parts of the world, or the commodities went to these regions and similarly people from other parts of the world also visited this region.

CHAPTER 5 EARLY MEDIEVAL PERIOD (500 CE - 1200 CE)

The beginning of Early Medieval period in Tamil Nadu can be placed around 500 CE, although some scholars would place it slightly earlier. For the current work, we have placed the end of this period around 1200 CE. It should be remembered that these divisions are only indicative of some transformations and the divisions should not be seen as rigid. Tamil country witnessed active state formation processes during this period (Kulke *et al.*2009, Hall 1980, Subbarayalu 1973, Karashima 1987, 1995, 1988, 2002; Stein 1980; Champakalakshmi 1996). The agrarian based states of the Pallavas, the Pandyas, and the Cholas emerged powerful in this period. The Medieval states of Tami Nadu, which were better organized that the early historic polities of the Tamil country, took efforts to expand agriculture beyond the deltas into the dry regions. Buddhism and Jainism declined, while the Brahmanical religion began to grow and temples emerged as major institutions, leading to the dominance of the Brahmanas and the ruling elites. Mainly the Cholas and to some extent the Pallavas and Pandyas dominated the scenario in this period. The contacts between the Tamil region and the Eastern Asia were very active in this period. Evidence of these contacts is found on the coastal regions of Tamil Country. The political aspirations of the Cholas extended beyond the Tamil country as evident from the overseas conquests. The Tamil merchants played a dynamic role in the overseas trade.

5.1. Evidence from the Eastern Indian Ocean Region

The actual evidence for the trade activities of the Tamil Merchants is not much for this period. A few inscriptions of this period are reported in Southeast Asia. The Chola monarch Rajaraja I and his son Rajendra I, especially, extended the boundary of the Chola Empire and developed interest in the regions of Southeast Asia (Fig. 7)

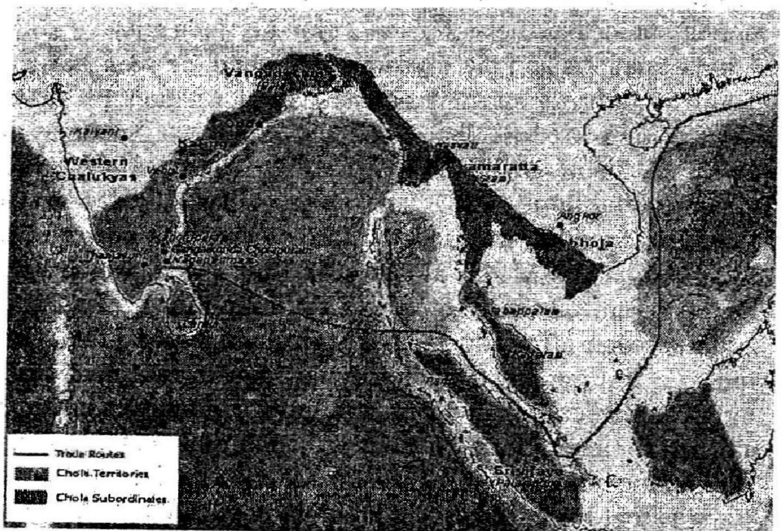


Fig. 7. Map Showing the Chola Territory and their Ares of Expeditions (Courtesy: Wikimedia Commons, 2010)

Sri Lanka

The connections between Sri Lanka have been discussed in much detail by researchers from the early times (Pillay 1975). During this period the Pallavas, the Cholas and the Pandyas were involved in the political affairs of Sri Lanka. Sri Lanka was invaded several times. The revival of

Brahmanical religion that began in Tamil Nadu during the Pallava period also seems to have influenced the Jaffna region, and Tirukketiswaram and Mantai find mentioned in the hymns of the Saivite saints Sambandar and Sundarar (Sitrambalam 2004). Throughout this period Tamils were present and were involved in political, commercial and cultural activities. During this period several temples were constructed. The Chola dominance was in its peak in the 10th and 11th centuries, and the northern part of Sri Lanka acted as a part of the Chola Empire.

Anuradhapuram

The Nankunattar Tamil inscription is an important document. The inscription mentions about Tamils of Nankunaatu, which appears to a translation of Nanadesi. It refers to the endowments made to a stupa called Makkotaiperumpalli by the merchants belonging to Naankunattar. It is dated to the 9th century CE. The Maakkotaiperumpalli in this inscription perhaps refers to the Buddha stupa built by the Chera King. Here we should compare the name of this Vihara complex with that of Chulamanivarma Vihara built at Nagappattinam by the Sri Vijaya king Chulamanivarman around 1005 CE (*EI* XXII, p.222). Therefore, it can be proposed that the Chera king built this vihara complex in Sri Lanka. Makkotaipattinam is the name of Kodungallur, the ancient capital of the Cheras (Pathmanathan 2006).

There are several other inscriptions in this area. An inscription refers to Kumaraganattupperurar (Pathmanathan 2006: 48).

Polannaruva (Jananathamangalam)

Polannaruva served as the capital of the Cholas. After the withdrawal of the Cholas some of the structures were damaged and they were used in later constructions. There are two temples here: Sivalaya 2 and Sivalaya 5. And both of them have Tamil inscriptions.

Kandalai

This place has produced an inscription of Chola Lankeshwaran. It was a Brahmadeya settlement and this inscription mentions about Rajarajcaturvethimangalattu perunguri Mahasabhayom (Pathamanathan 2006).

Budumuttuva

Budumuttuva is located near Nikaveratiya in Sri Lanka. One of the inscription records the donations offered to Rajamahavihara by Chuntamalli, a Chola princess and Maanacharan. Another inscription talks about the settlement of dispute between Kammalas and Washermen (Pathmanathan 2002).

Pathaviya inscription

This site has produced an inscription of Rajaraja I and it refers to the donations made to the Ravikulamanikkaiswaram. It has the meikeerthi of Rajaraja I (Pathamanathan 2006).

Trigonamalai

Inscriptions of Rajaraja I and Rajendra I with their *meikeerthis* (euologies) have been found at Trigonamalai. In Trigonamalai district, at a place called Periyakulam a stupa known as Rajarajapperumpalli was excavated. It is considered

a Tamil *vihara*, built by the Cholas (Pathmanathan 2006: 110).

Southeast Asia

In the Medieval period also there existed connections between the Tamil country and Southeast Asia. The establishment of the Pallava kingdom perhaps offered a stable political situation and helped the development of state formation. The Pallavas pioneered the overseas political ambitions with their involvement in Sri Lanka affairs. Pallava script has been found in 14 inscriptions from Indonesia archipelago (de Casperis 1975). Pallava architecture style also seems to have also influenced some of the temples of Southeast Asia (Nilakanta Sastri 1949b).

Khau Pra-Narai (Brah Narayana) Takua Pa, Thailand

The oldest known medieval Tamil inscription comes from the region of Takua Pa on the west coast of peninsular Thailand. The short Tamil-Brahmi inscription datable to the Early Historic period from Wat Khlong Thom has already been discussed. The Takua Pa is the second oldest Tamil inscription in Southeast Asia. It was found at Khau Pra-Narai (Brah Narayana), about 10 km from the mouth of Takua Pa River along with a stone structure and three stone figures. One of the images is identified with Siva and the other two as his consorts (O'Connor 1972). These same images are identified as belonging to Vishnu of the Pallava style (Karashima 2002: 11). This inscription is datable to the 9th century on palaeographic grounds (Hultzsch 1913, 1914) and according to Nilakanta Sastri (1949a), the text of the inscription is as follows:

1...*[ya] ravarmakku*
2..*[m]an tan nang[u]r[u] daiy[a]*
3. *[n] tottta kulam per Sri A[vani]*
4 *naranam manikkiramattar[k]*
5 *[k]um senamugattarkkum*
6...*apatarkkum adaikkalam"*

Based on Sastri's reading, the inscription conveys that the tank named Sri Avani Naranam was dug by the resident of Nangur and was entrusted with Manikramattar and Senaamugattar and another group, whose name is incomplete. On account of the name 'Avaninaranam,' Nilakanta Sastri attributes this inscription to the time of the Pallava king Nandivarman III. Adopting, Nilakanta Sastri's argument, Kulke and Rothermund (2004: 123) assign this inscription to the period of Pallava Nandivarman III and mention that a Pallava officer entrusted the charge of the tank with the merchant guilds.

Christie argues that it could belong to the Early Chola period (1998). She identifies the places name as "Pra-Narai (Brah Narayana)." It is not certain if Veeranaranam was the name of the tank. Interestingly this name is similar to the name 'Veeranarayanam," a lake in the Chidambaram region. Therefore, it could also be argued that the inscription could date to the time of the Parantaka Chola I. In that case the tank might have been dug during the early Chola reign. The naming of tank might suggest the direct role of the state in this region. This reveals the important position occupied by the guilds of Manigramam and Senaamugattar guilds. It is not clear who was the king referred to in this inscription. Did the merchant guilds also possess lands and were involved in

cultivation in Southeast Asia? It might be worth a while to investigate if the irrigation technology of South India (Rajan 2008) was introduced in Southeast Asia as well.

Inscriptions of Java

The Kuti copper plates, dated 840 C,E mentions about "Cëmpa, Kling, Haryya, Singha, Gola, Cvalika, Malyala, Karnake, Rëman and Kmir." Kling is identified with Kalinga (Sarkar 1985). Similarly Cvalika is identified with the Cholas. Malyala in this inscription is identified with Malaimandalam or modern Kerala region, where Malayalam is spoken. An inscription from Cane in the Brantas delta, Java dated in 1021 CE, mentions about Pandikira and Drawida. Perhaps the former refers to the Pandyas, while the later points to the Cholas.

Kalirungan, Central Java

The Kalirungan inscription dated in 883 CE mentions about the merchants from Kling (Kalinga) Arya Aryapura/Ayyavole), Pandikira (Pandyas), and Singhala (Sri Lanka) from South Asia (Hall 2004; Christie 1998). Pandikira is identified with Karnataka by some researchers. It appears to refer to the Pandyas. In Kerala, even today the Tamils are known as Pandikkarans. Perhaps this term came from the label of the Panydan kingdom. The inscriptions refer to the foreign regions in a particular sequence. The later Javanese inscriptions mention Karnataka, in the place of Pandikira of the early inscriptions (Sarkar 1985: 327). Hence some scholars identify Pandikira with Karnataka (Christie 1998). However, this replacement could be due to the decline of the Pandyas after 9th century CE.

Neusu Aceh, North Sumatra

A fragmentary inscription dated to the 12th century CE based on palaeographic grounds, has been found at this site. It might have been connected with construction of a temple or mandapam. This place was perhaps connected with some merchant guilds (Christie 1998).

Lobo Tuwa (Lubo Tuo or Loboe Toewa), West Sumatra

The Lobo Tuwa inscription is the second oldest Tamil inscription from Southeast Asia and is dated in Saka era (1088 CE). This site is located a little north of Barus (Baros) on the west coast of Sumatra. This inscription coincides with the reign of the Chola monarch Kulottunga. The location of the merchant settlement is called Velapuram, according to the inscription.

Subbarayalu (2002) discusses about the inscription in detail, and he argues that the name of the town clearly indicates that it belonged to the Ayyavole trade guild. Interestingly the traders have created their own name for this settlement suggesting their nature of thinking. The place Velapuram is the actual place within the town, where the colony of merchants was located. It is not known where exactly this place was located. Exploration of this area could reveal more information. Subbarayalu also supports the view that there existed a colony of Tamils in this region. Barus was a famous port for camphor trade. This site has been recently excavated by a French Team who has found some pottery fragments similar to Indian in forms.

Discussions

Chola-South East Asian Relations

Chinese empire was an important agency in the medieval Indian Ocean trade. It is reported that the Chinese had a great demand for spices and aromatics, pepper and cotton (Guy 2000: 286), which boosted the trade combined with the policies of the Chinese state. The Cholas and the Chinese exchanged several envoys. The Chinese have records that speak about Indian ports and kingdoms. However, no such surviving records of South Indian kingdoms referring to either the ports of South India or China have been found. Perhaps such documents of India have been lost or destroyed due the vagaries of nature and lack of preservation. When the Cholas built a powerful empire in the 10th century, they began to develop overseas interests, perhaps for trade purposes, in the region of Southeast Asia around the Straits of Malacca.

During the reign of Rajaraja I (ca. 1005 CE), the Srivijayan Sailendra king Chulamanivarman constructed a Vihara at Nagappattinam (*EI* XXII p.222.) and this grant was renewed in the reign of Kulottunga I in ca. 1089 CE (EI XXII 267-281). This suggests that in between the issue dates of these two copper plates, misunderstandings had developed. Chola expeditions to Southeast Asia under Rajendra I took place around 1025 CE (Kulke and Rothermund 2004: 124-125). This expedition was perhaps undertaken only to prove the supremacy of the Cholas, and the invaded regions were not annexed to the Chola Empire. We can deduce that the Sri Vijayas must have disturbed the commercial interests of the

Cholas after the construction of the Nagapattinam vihara in 1005 CE.

After the death of Rajendra I, it appears that the Sri Vijaya kings again interfered. They had made false claims to the Chinese court that the Cholas were their subordinates. This episode explains that the Cholas were not continuously in touch with the Chinese and this probably facilitated the Sri Vijaya kings to make representations according to their whims. This could be the reason for the Cholas sending several embassies/envoys to the Chinese court directly. The smaller Leiden grants of Kulottunga I mention about the construction of Rajarajaperumpalli and Rajendracholapperumpalli at Nagapattinam by the Sri Vijaya king. These two structures seem to have been built after these two dynasties reached a compromise. The Chola names of the Viharas also reveal the diplomatic initiatives of the Sri Vijaya kings to pacify the Cholas. The construction of the monasteries could also have been a strategy on the part of the Sri Vijaya kings to spy and get first hand information about the political and military planning of the Cholas.

The Cholas also took part in the internal political struggles of South East Asia (Kulke and Rothermund (2004: 125). The king of Cambodia is reported to have presented an ornament to Kulottunga I, who donated that to Chidambaram temple (Kulke and Rothermund 2004: 125).

The Political Dominance of the Cholas and the Concept of 'Araiyars'

The Cholas in fact visualized a maritime empire and developed interest in trade. Their achievement of political

dominance within the country by the end of tenth century CE, facilitated them to look beyond the ocean into the regions of Southeast Asia. The tussle between the Cholas and the Sri Vijaya rulers to control the Chinese trade is well known (Sen 2003).

The terms used by the Cholas to refer to the kings of Sri Vijaya definitely suggests their dominance in perception. Araiyar is the term used to denote chieftains and the subordinates of the Chola emperors. The Chola kings always used the titles Parakesari or Rajakesari and "Tevar," while their subordinate chiefs and officials had titles such as rayars and araiyars. Consciously the title araiyar was used by the Cholas to label the kings of Kedah and Sri Vijaya in their inscriptions. The larger and smaller Leiden copper plates of the Cholas too mention the Southeast Asian kings as araiyars (*EI* XXII p.222, 267-281). Two inscriptions of Rajendra I at the Kayarohaneshwarar temple at Nagapattinam refer to "Sri Vijayatarayar" (IAR 195-57/ 161 164; Markasiya Gandhi and Rajagopal 2007: 224, 227). Kidaratharayan is mentioned in the inscription of Rajendra (1019 CE) (IAR 195-657/ 166; Markasiya Gandhi and Rajagopal 2007: 230-231). This clearly suggests that the Cholas viewed the Southeast Asian kings of Sri Vijaya and Kadara as their subordinates.

5.2. Early Medieval Connections of the Tamil Country in the Western Indian Ocean Domain

Comparatively very limited material evidence is available for the connections between Tamil region and west Asia. Perhaps the trade in the Western Indian Ocean region was controlled by the West Asian (Islamic traders) in the terminal phase of the Medieval period. It is contended that the

Muslim Diaspora dominated every circuit of trade from China to Indian coast and beyond (Sen 2003). During the time of Rajaraja I in the 11th century, Islamic presence is noticed in the area of Nagapattinam on the Coramandal (east) coast of Tamil Nadu. The greater Leiden copper plate grants mention about an accountant (Karanattan Mathyasthan, Turukka nakamudan of village) named Turukan Ahamad (*EI* XXII, p. 222; Venkatasamy 2002, 302, line 236), 1952. There are several medieval ports of Kerala with Chinese ceramics and commercial activities (Varier 1990, 2003). In this section two important ports of Kerala, Pantalayinikollam and Kurakkenikkollam are discussed. Kerala did have many other settlements as well, and they are not discussed here.

Kurakkenikkollam

Kurakkenikollam is the Medieval port on the southern part of Kerala. The Cholas developed interest in this port due to increased commercial activities. The Kollam era of 824 is reported to have named after the town (Salomon 1998: 189-190). The Terisappalli inscription of Sthanuravi mentions about a Christian church that existed at the town of Kollam (Subbarayalu 2001). Perhaps, the Cholas had interest in the town. This town probably had Muslim as well as Jewish settlements. According to the Arab writer Sulaiman, Chinese ships visited the Kollam port. Chou-Ju-Kua and Ma-Huan's account Ying-Yai Sheng-Lan mention about Kerala and Kollam. Some inscriptions of Cholas are also reported in the area nearby (Jayakumar 2001). At a locality called Tankaserry, blue on white Chinese ceramics have been found (Karashima 2004). An inscription datable in the reign of Rajendra I (1016 CE), Damanthaiyyan a merchant from Kurakkenikkollam donated 180 kasus for offering food for five Brahamanas every day (157/ 56-57; Markasiya Gandhi

and Rajagopal 2007: 212-213). It is clear that merchants from Malaimandalam or Kerala region were active on the east coast.

Pantalayinikollam

Pantalayinikollam is known as Quilandy and is located north of Kozhikode (Varier 2003). It was a wintering port of Kerala and it was known as Fandarina to the Muslim sources. It has one of the earliest inscriptions related to Islam dated in Hijra 166 (Naqvi 1934).

Pattanam

The Early Historic settlement of Pattanam continued in this period also but the intensity of the activities seems to have declined. Pattanam was an important centre of trade during this period. The contacts with the west Asia is attested by the presence of green-blue glazed ceramics, which are dated between 5th century to 10th century CE. During this period the settlement could have connected to places like Siraf in West Asia. Beyond this period there was decline in the activities at Pattanam. It appears that the focus shifted after this period to Kodungallur.

Kodungallur

Kodungallur (Mahodhayapuram was a major centre of commerce in the later medieval period. The importance of Kodungallur seems to begin only in the 8th century CE. Kodungallur has a tradition of a mosque that is connected with Cheraman, and it is claimed that it is dated to the early Medieval period. There are reports about an inscription within the mosque. The presence of Islam on the Kerala coast in this period is very well known.

North Malabar and Genizha Documents

Kozhikode was an important port during this period and Muslim traders were in substantial number (Narayanan 2006). One of the important evidence concerning the western contacts is the reference to the Jewish merchant who lived at Mangalore-Kannur region (Goiten 2001)

Discussions

The forgoing account clearly suggests that the contacts with Southeast Asia existed in the Pallava period. Several ideas, people and commodities from Tamil Nadu reached Southeast Asia. However, the Chola period witnessed large scale activities, because of the direct involvement of the state in South East Asian affairs. The Sri Vijayan kingdom seems to have had equal interests. The Cholas interfered in Southeast Asia in the 11th century to get direct control over the trade. The expedition of Rajendra Chola could have been undertaken to check the Sri Vijaya interference. By the end of the period the Cholas, declined, but the mercantile activities continued. The western Indian Ocean regions seem to have been dominated by the Muslims traders, while the Tamil traders seem to have had comparatively more participation in the Southeast Asian trade.

CHAPTER 6. THE LATE MEDIEVAL PERIOD (1201-1600 CE)

'Late Medieval' refers to the period from ca. 1201 CE. The reason for placing the beginning of this period around 1201 CE is that during this time the Chola rule began to decline, and the Pandyas began to rise in Tamil Nadu. The year 1201 CE should not be seen as a water tight boundary, what is meant here is broadly the beginning of the 13th century. The Late Medieval period witnessed the development of second Pandyan and the Vijaya Nagara Empires. The West Asian/Islamic forces established their rule and South Asia was getting ready to face the colonial forces from Europe. By the end of this period, colonialist roots began to grow. By this time definitely Islam and Christianity had been established in the Tamil country, i.e. Christianity existed on the West Coast, and Islamic presence is evidenced by the reference to Turukan Ahamad as a Madhyastha in the Anaimangalam copper plates of the Cholas. Perhaps, Islamic presence increased in this period on the east coast of Tamil Nadu, when compared to the Early Medieval period. In addition, more evidence is found for Tamil contacts with Southeast Asia. Mercantile activity definitely increased in this period. Section of the Tamils, mostly traders and those who were associated with them, and adventurous individuals ventured to go beyond the limits of Tamil Country.

6.1. Late Medieval Connections of the Tamil Country on the Eastern Indian Ocean Region

Sri Lanka

Although the Cholas declined, the legacies of Tamils continued in Sri Lanka. Evidence for Tamil activities is present in the form of various records and archaeological remains (Pathamathan 2006).

Southeast Asia

In the Late Medieval period the activities of Tamil merchants increased in Southeast Asia as indicated by the Tamil inscriptions (Christie 1998). These inscriptions suggest the movement of Tamil merchants in that region.

Jan Wisseman Christie (1998) who presents a summary of the Tamil inscriptions found in Southeast Asia classified three phases of inscriptions 1) Pallava Chola transition 2). Peak of the Chola Power, and 3) Later Chola Pandya period of 13th century. According to the author the inscriptions are found in more frequency in the last phase. Although there are about seven Tamil inscriptions from Southeast Asia (Burma, 1; peninsular Thailand, 2; Sumatra, 4), only one is found in China.

Wat Boroma That, Nakhon Si Thammarat, Thailand

A Tamil stone inscription is found in a Buddhist temple. It mentions about the grants made by one Dhamma Senaapthi to the Brahmanas (Karashima 2002: 13). This clearly reveals about the existence of temple in this area. It is dated to 1183 or 1283 CE.

Jakartha Museum Inscription, Indonesia

A bilingual inscription was found in the Jakarta museum, in Tamil and Old Javanese. It is found on a dance sculpture and records that Dipankara made some charitable activity for the king Peritu Sri Maharaja (Karashima 2002: 15). It is dated to 1258 or 1265 CE.

Pagan, Myanmar

This inscription is on a stone preserved in Pagan Museum, and is dated to 13^{th} Century CE. It records about a manadapa constructed at Naanadesi ViNNagar, a Vishnu temple. It mentions about the donation given by Iraayiran Siriyan. He constructed a front hall, and donated the door and gave a lamp (Nila Vilakku). Nila Vilakku means "ground lamp" in Malayalam and in Tamil it is known as Kuttu Vilakku (Vertical Lamp). This type of lamps is still manufactured and used in Kerala. The merchant hailed from Makotayarpatttanam of Malaimandalam, which is none other than Kodungallur on the bank of the river Periyar in Kerala. Recently this temple in Burma has been renovated.

China

China was major power in the Medieval period and it impacted the Indian Ocean trade tremendously. The Chinese ceramics had great demand across the regions, but mainly in West Asia. Many of the Medieval ports of India have Chinese ceramics, which are dateable to post-12th century (Karashima 2004).

Quanzhou (Chuan Chou), Eastern Coast of China

A Tamil inscription datable to the 13th century (1281) was found at the eastern coast of China associated with the

remains of a Shiva temple in 1956. It is located 800 km north of Canton, in a place called Chuan Chou or Quanzhou (Karashima 2002). This discovery brought to light a concrete form of evidence for the presence of Tamil merchants in this region (Guy 2001). In addition 300 Brahmanical images have also been found at this site. The contacts between the ports of Tamil country and China are attested by the accounts of Marco Polo too (Sen 2003).

1 harah svasti sri sagaaptam 1203 vatu cittirai
2 cittirai nal sri ce[kace]kan tirumenikku nan
3 raka udaiyar tiruk[ka]niccuramudaiya naayannarai
4 eeriyarula panninaar campandapperumaal
5 aana tavaccakkaravattikal ce[ka]caikan parman
6 padi

> "Obeisance to Hara (Siva)! Let there be prosperity! On the day [having] Chitra in the month of Chittirai of the Saka year 1203, the Tavachchakkarvarttigal Sambandhapperumal caused, in accordance with the firman of Chekachai Khan (the Mongol ruler), to be graciously installed the God Udaiyar Tirukkadalisvaram Udaiya-nayinar (Siva), for the welfare of the illustrious body of the illustrious Chekachai Khan."

After the Yuan dynasty set up a maritime trade organization at Quanzhou in 1278, and an envoy was sent to India in 1281. It is argued that the inscription must have been issued subsequent to that date (Christie 1998). A survey of the temples and the comparison of the architectural remains of

this region with the Tamil region have been undertaken by Risha Lee (2010). The construction of the temples should be viewed as a means to satisfy the emperor and get his goodwill through super natural/ritual means. Who was this Sambandhaperumal alias Tavachakravarthikal? According to H.P. Ray the name of the person indicates that he belonged to the region of Kumbakonam (Ray 1989). It is reported that over 300 architectural fragments have been identified at this site. An estimate says that about 200-300 members of the guilds must have existed in this town.

6.2. Late Medieval Connections of the Tamil Country on the Western Indian Ocean Region

The survey of Late Medieval connection in the Western Indian Ocean is restricted here to the west coast of Kerala.

Cendamangalam

A tomb inscription of Hebrew dateable in the 13th century (1264 CE) has been found at Cendamangalam in front of the Synagogue and it indicates the presence of Jewish merchants at Cendamangalam (Sofaer 2005) which is located about 25 km north of Kochi near Paravur. This town still has a synagogue and Jewish cemetery. The Jewish traders were present in considerable numbers in this region.

Kurakkeni Kollam

Kurakkeni Kollam was an important the port of in the southern part of Kerala and it is mentioned in the account of Ibn Batuta. The merchants from this region visited Nagapattinam before proceeding to the east (Jayakumar 2001:

141). No excavation has been conducted at this site, but some Chinese ceramics have been found at Tankaserry.

Kodungallur

Kodungallur functioned as a major port in the Late Medieval period as revealed by the excavations at Cheramanparambu (Achan 1946). This town was known as Mahothayarpattanam. A merchant from this town built a mandapa donated door and lamp to a Vaishnava temple at Pagan in Burma. This town perhaps had Christian and Jewish merchants. Ceramics of Thai origin is found at the excavations at Cheramanparambu (Karashima 2004).

North Malabar

The north Malabar also had evidence for merchants from the region of West Asia. Islamic presence has been registered at Kozhikkode (Narayanan 2006) and Pantalayinikollam. Islamic traders were also active on the east coast of India, as evidenced by the references in the inscriptions.

Discussions

The Late Medieval period saw increased mercantile activities in the Indian Ocean region. The inscriptions and the Chinese sources clearly reveal about the maritime activities of the Tamils. The role of Chinese Empire and its policy did contribute to the mercantile activities of this period. Islam had well established during this period on the coastal areas of India.

Various merchant guilds of such as manikramattar, anjuvannam, and nanadesis were functioning across the region (Abraham 1988; Karashima 2002).

In spite of the decline of the political powers such as the Pallavas, Cholas and the Pandyas, the trade activities continued in this period. The merchant guilds carried forward the trade activities. Perhaps the demand for goods induced by internal prosperity is a factor that boosted the trade activities.

CONCLUSIONS

The Tamil cultural connections and history encompasses at least two continents, Africa and Asia, and the Indian Ocean. The evidence that has been presented in this work so far clearly suggests that the dynamic of Tamil culture can be holistically understood not by merely looking at the evidence found within the Tamil Country, but also by investigating the evidence from other parts of the Indian Ocean region. Although at one level, the developments within the country were caused by internal factors, external factors, what could be labelled as World Trade system also impacted the developments in certain areas of Tamil Country to a limited extent.

From the current understanding of the anthropological and archaeological evidence, it can be argued that Tamils derived from the *Homo sapiens*, who migrated from Africa about 70,000 to 60,000 years BP. There is no reliable evidence to suggest that Tamils originated in the present day Tamil Nadu itself. From the available evidence, it is clear that a section of the Tamils inhabited in this region from the early period, even before the Harappan Culture, i.e. from ca. 60,000 years ago. We are not sure about their linguistic affinity of these groups. However, it is certain that the genes of these early migrants form part of the contemporary Tamil population. These early migrants dispersed and developed their own cultures in various parts of India. Their presence is well attested by the widespread nature of the Mesolithic or microlithic record in South Asia.

The archaeological evidence from India reveals diversity in the population make-up of this region from the Late Prehistoric period onwards.

There is no convincing evidence to suggest the patterns of migrations of various groups in India. For the origin of the Dravidians, the following possible theories can be suggested.

1) The Dravidian speakers emerged indigenously. The Mesolithic groups were Dravidians and they took Neolithic traits around 3000 BCE onwards and emerged in South India itself.
2) The second theory is that some of the Dravidian speakers were Harappans.
3) The third theory is the Chalcolithic communities of Rajasthan as well as the Harappans were Dravidian speakers of different identities, and Austro-Asiatic groups also existed in this region.
4) The fourth theory is the Chalcolithic communities of Rajasthan, who were contemporaries of the Harappans, were Dravidian speakers, while the Harappans in the core region were not Dravidians.
5) The Mesolithic groups of South India were not Dravidians, while the migrating (?) Neolithic communities were Dravidians.

Even before the emergence of the Neolithic around 5,000 years ago, several waves of migration might have come to South India and the Tamil region. There is certainly some evidence for migrations from the northern part of Peninsular India from about 1500 BCE. The spread of black and red ware in South India cannot be solely explained in terms of internal developments. There is a likelihood that the some of

the populations of the Chalcolithic cultures of Western India and Deccan moved into South India. The idea that emerges here is that the Tamil speaking population has been formed out of a series of migrations over a long duration of time from the prehistoric period.

Do some of the primitive communities living in remote regions of India directly derive from the early hunter-gatherer populations? It is a possibility, but we cannot assume that the hunter-gatherers were static and a number of dynamic processes could have happened in their past.

At the moment there is a division of opinion on the origin of the Harappan culture. There is a group of scholars who argue for Aryan authorship, while others are of the view that it is Dravidian. There is also a view that Harappan cultural region included more than one group of languages/peoples (Possehl 2002). Until the script of the Harappan is deciphered, we cannot say much. Future research in South India should focus on the cultures that prevailed in this region more systematically. Deserving importance should be given the smaller groups and cultures-- the subalterns of the past.

It appears that several waves of migrations, from within and outside South India have contributes to the formation of Tamils and various Dravidian speaking groups.

Often the theories of migrations are proposed based on impressionistic notions deriving from the contemporary understanding, and hence they are bound to be flawed. Past is a foreign territory and it is not possible to view this phase objectively.

The archaeological scenario of the Tamil region becomes clearer in the Iron Age. It appears that new groups came to Tamil region in this period. These migrations could

have happened from the Deccan and beyond. The Western Ghats/Kerala region attracted traders for its spices. The various landscapes of Tamil country were occupied in the Iron Age and the ecological variations led to the emergence of regional cultural variations and chief-ships/political powers.

The Early Historic period witnessed intense contacts and exchanges across the Tamil country. Movement of Tamil merchants in Egypt is attested by the inscriptions on pottery found at Berenike and Quseir. Similarly the evidence for Tamil merchants/craftsmen is also found in Southeast Asia. Not only the Tamils went to far off regions, people from other regions also visited Tamil country, as attested by the references to the Yavanas in the literature, and the Prakrit inscriptions, which suggest the arrival of merchants from North India. New ideas and goods flowed in. The rouletted ware indicates the movement of Indian traders and commodities. The developments in the Tamil region were definitely influenced by the socio-political changes in the Indian Ocean region to a limited extent. The explorations of commodities, and regions across the Ocean were initiated in this phase and perhaps the excitement attached with exotic goods and the consuming patterns of the elites contributed to the development of trade activities. The new ideology of love for wealth emerged.

When state formations took place in the Medieval period, there was more focus on irrigation and agricultural production. The Early Medieval period witnessed continuing trade activities and the Chola Empire was an important factor for the active trade in the medieval period. The merchant guilds became very powerful in this period. The Chola naval ambition is very much attested by the (*Meikeethi*) *prasasti* of Rajendra I, which mentions about the conquest of South East

Asia. The tussle that existed between the Cholas and the SriVijaya kings is an example of the monarchs developing interest in commercial activities.

The very labelling of the kings of Kidara as Kidaratharaiyan and Srivishayatharayain is crucial here. The Cholas consciously used the title "araiyar," which referred to the officials or chiefs of lower rank than the Chola ruler, for the Southeast Asian monarchs. This perhaps indicates the subordinate position given to these monarchs.

Various faiths arrived in the Tamil region peacefully through trade networks. Christianity and Islam reached the West Coast of India in the Early Medieval period itself. The Indian Ocean has given a sort of protection to the South India, compared to the North India, which witnessed several waves of migrations and invasions.

Over all the dynamic role of the merchants of the Tamil-country is evident from various sources. The above survey reveals that Tamils greatly contributed to the history of South Asia. The arrival of colonial European powers and the modernism has changed the history of the region in the post-1600s.

The following trends are clear from the above analysis of the interactions of the Tamil country:

1. *Political Control over Trade.*

There have been attempts by the state to control trade from the early times. The references to the Sangam Cholas imposing tax on the commodities in their ports, and the emergence of twin capitals, one in the hinterland and the other in the port-cum-commercial centres of the coast, for the political powers of the Sangam Age (Vanci [Karur] and Muciri (Pattanam for the Cheras; Uraiyur and

Kaviripoompattinam for the Cholas; and Madurai and Korkai for the Pandyas] definitely prove the commercial interest of the Early Historic political powers. Perhaps the kings realized that trade was a comparatively easier, peaceful means of generating resources. This trend of kings controlling trade continued in the medieval period as evidenced by the Chola activities in Southeast Asia. For the state exchequer, tax from trade offered additional resources.

2. Powerful Nature of the Merchant Groups

The merchant groups were very powerful by forming guilds and alliances. They could control certain areas; they created colonies and named the territories according to their conventions. However, they needed the support of the state. This alliance between the state and the guilds worked very well.

3. Religion and Ritual as a Means of Goodwill, Persuasion and Indirect control

Construction of temples, monasteries and naming them after the kings was a strategy adopted by the merchants to develop goodwill, and persuade the monarchs to favour them.

4. World Trade Systems influence the trading patterns

Despite the developments within a particular region, the broader developments in the large regions had a major role in the long distance trade.

The final point that emerges from the study is that this land does not belong to any one single group. The DNA studies clearly suggest that all modern humans derived from Africa. The earth belongs to every one and every one has the

right to live. This idea has been beautifully expressed by a Tamil poet about 2000 years ago in a Sangam Tamil poem.

"All places are my native,
all people are my relatives."
Kaniyan Poonkunranar Puram 192.

This can be a guiding spirit for a sustainable modern world.

Appendix 1 Tamil Diaspora before 1600 CE

Table 5 Select Individuals of the Tamil Diaspora: up to 16th Century CE

Sl. No	Name of the Individuals	Time Period	Location and Country	Ref
1	kanan	EH	Quseir al Qadhim, Egypt	Mahadevan 2003
2	caatan	EH	Quseir al Qadhim, Egypt	Mahadevan 2003
3	panai Ori	EH	Quseir al Qadhim, Egypt	Tamil Brahmi script in Egypt, Hindu, 21, November 2007
4	korra poomaan	EH	Berenike, Egypt	Mahadevan 2003
5	Perumpattan	EH	Khlongthom, Thailand	Shanmugam 1996
6	Nangunattar	M	Anuradhapura	Pathmanathan 2006
7	Kumaraganattuperurar	M	Anuradhapura, Sri Lanka	Pathmanathan 2006
8	Cekkizhan Cetty Cankan	M	Anuradhapura, Sri Lanka	Pathmanathan 2006
9	Cekkizhan Cennai	M	Anuradhapura, Sri Lanka	Pathmanathan 2006
10	Taazhikumaran	M	Matottam, Sri Lanka	Pathmanathan 2006: 66-70

Continued

11	Cirukulattur Udaiyan	M	Matottam, Sri Lanka	Pathmanathan 2006: 66-70
12	Jayankonda Muventa Velar	M	Matottam, Sri Lanka	Pathmanathan 2006: 71
13	5 individuals with title Udaiyan	M	Polannaruva Sri Lanka	Pathmanathan 2006: 82
14	Gangaikonda Chozhappallavara yan	M	Polannaruva Sri Lanka	Pathmanathan 2006: 77
15	Thiruppovanateva n	M	Polannaruva , , Sri Lanka	Pathmanathan 2006: 80
16	Tiyagasindhaman i Muvendavelan	M	Polannaruva , Sri Lanka	Pathmanathan 2006: 80
17	Karpagam, son of Mugari Nadazhvan	M	Polannaruva , Sri Lanka	Pathmanathan 2006: 80
18	Athiakaranasara alias Munrukaithivelai kkaran	M	Polannaruva , Sri Lanka	Pathmanathan 2006: 82
19	Chola Lankeswaran	M	Kandalai, Sri Lanka	Pathmanathan 2006: 95-97
20	Muvendavelan Ganapathy	M	Koganesar	Pathmanathan 2006: 95-97

Continued

20	Muvendavelan Ganapathy	M	Koganesar	Pathmanathan 2006: 95-97
21	Kulakkottan	M	Trigonamalai , Sri Lanka	Pathmanathan 2006: 103
22	Adityaperarayan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 110
23	Tariyanan Poovanatevan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 110
24	Kandan Yakkan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 110
25	Pathravitha Raman	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 110
26	Amuthan Sattan		Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 114
27	Thirukkisankondan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 118
28	Vidangan Koothan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 118
29	Sattan Aditan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 118

Continued

30	Eranadan Kandan Yakkan	M	Periyakulam, Trigonamali, Sri Lanka	Pathmanathan 2006: 119
31	Arangan Ramesan	M	Adakada, Sri Lanka	Pathmanathan 2006: 122
32	Ayyamuri Nadazhvar	M	Kanatarava, Sri Lanka	Pathmanathan 2006: 123
33	Ainurruvan	M	Ariava, Sri Lanka	Pathmanathan 2006: 125
34	Tavacakkaravartikal	M	Quanzhou, China	Karashima 2002
35	Iraayiran Siriyan	M	Pagan, Burma	Karashima 2002

Note: EH= Early Historic; M= Medieval.

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